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Ritual Symbolism in the Organization of the Zuñi Sacred Priesthood
LAWRENCE KRADER 67

Social Types and Mating Patterns among Northern Coast Indians
FRIEDRICH S. HULSE 93

Shinbone Ethics, a Japanese Complex of Supernatural Beliefs
EDWARD NORBECK 103

Warfare in the Eastern Highlands of New Guinea
VERONICA WALKER 123

Navaho Children on Navaho Playgrounds: Mistakes and Gardenweeds Down Slim Trees
EDGAR D. HOSKINS AND KATHERINE L. HOSKINS 125

A Tiv Political and Religious Idea
PAUL BOHANNAN 137

Navaho Archaeology Re-Visited
CHARLES S. CHAPIN 150

Navaho Poetry and Zuñi Poetry
ERNA K. ROSS 176

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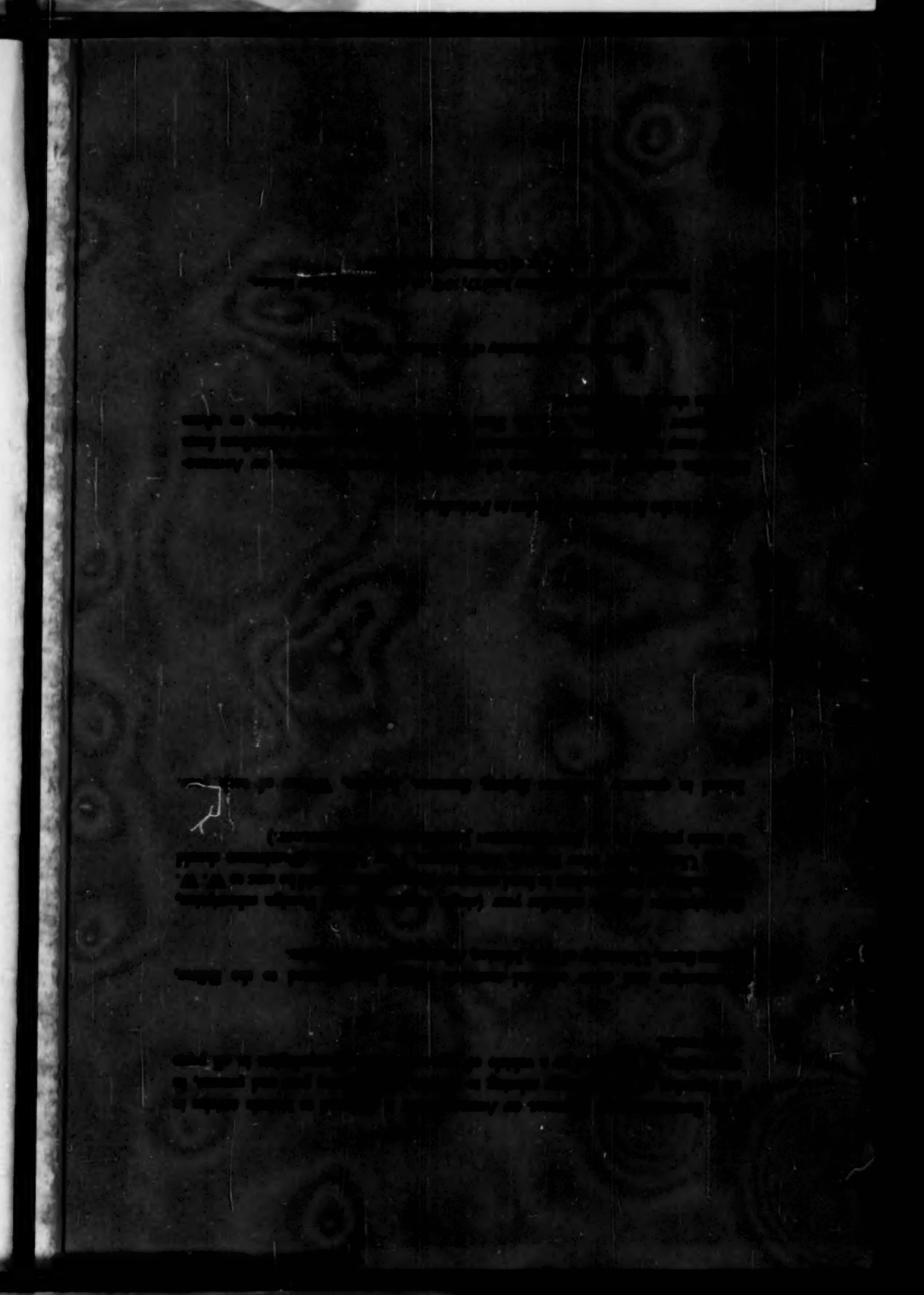

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PRINCIPLES AND STRUCTURES IN THE ORGANIZATION OF THE ASIATIC STEPPE-PASTORALISTS

LAWRENCE KRADER

THE CENTRAL PROBLEM of this paper will be to show how the social system of the Altaic-speaking pastoralists of the Asiatic steppe, Turks and Mongols, is represented in the categories of social anthropology and in the categories of native thought, that is, how the native concepts of their social organization and the concepts of social anthropology coincide, and how they diverge. The social organization of these peoples will be treated as a single basic form with variants among the different social groups. In addition to membership in a single language family, the Altaic, they have a number of other traits in common: their habitat is the semi-arid steppe which extends from the Caspian Sea to the mountains of western Manchuria; their subsistence is based on the raising of complex livestock herds—cattle, horses, sheep, goats, camels, yaks, and a cross of yaks and cattle; they nomadize in fixed annual rounds from winter pasture to summer, occupying encampments of felt tents.

No systematic treatise on Altaic social organization is possible in this paper; this topic was the subject of the present author's doctoral dissertation, and will be published shortly in separate form. During the past few years a number of monographs have appeared on the social organization of one or another of these peoples —Aberle on the present-day Kalmuks of the Volga, Vreeland on the present-day Khalkhas, Chahars, and Dagurs of Mongolia, Schram on the historical development of the Monguors of Kansu. Earlier, a monograph by Hudson had appeared on the Kazakhs of Turkestan.[1] In the course of this paper, these peoples, as well as others who are closely related, such as the present-day Turks of the Tien-Shan and Altai mountain ranges, the Buryats of Lake Baikal, the Ordos Mongols of the

1 See Bibliography.

Yellow River region, as well as the Turks and Mongols of a thousand years ago, will be discussed, stressing the common structure out of which the several variants have arisen.

These peoples maintain to this day the fundamental features of a common social organization. They have also given verbal expression to that common structure, in a system of concepts which are rendered into the specialized jargon of social anthropology with considerable facility. In an earlier paper, the central problem was the delineation of the cosmology of one of these peoples, the Buryats, together with a demonstration of how the cosmological and social systems as represented by the Buryats themselves were interwoven into one unified system of thought.[2] Here the problem is similar—the common system of concepts which the various Altaic peoples have developed, in relation to the system derived by anthropological analysis.

The social organization of these peoples is a complex one, in which the social structure has a double facet, the consanguineal and the political. The consanguineal is exclusively patrilineal-agnatic, the political is identical with it both in general and in detail.

We distinguish in our thought between a given form or structure and a principle which underlies it, which is exemplified embodied in it; e.g., the principle of democracy is embodied in a given parliamentary institution.[3] In like manner, the Altaic pastoralists differentiate in their thought between a principle of social organization, e.g., the principle of patrilineal descent, and a particular social structure, e.g., the clan. The specific, concrete social units are labelled as such by these peoples, in addition to being named groups. That is, these peoples have words for structures which we identify as the extended family, the kin-village, the clan, etc., and each one of these in turn has a proper name. The existence of native terms for these units is usual and not surprising. Less usual and more surprising is the fact that the natives also have a concept and a term for a principle of social organization, such as patrilineal descent. A principle is on a "higher" level of abstraction than a social unit. The clan as a social structure can be observed to function; a family has a visible life; not so a principle, which involves a different order of thought from that which—at times—may be perceived.

Again, we must distinguish between specific structures and sets of relationships

2 Krader, 1954.

3 The existence of a vigorous discussion on the nature of a social structure in which Radcliffe-Brown, Murdock, Fortes, Evans-Pritchard, Lévi-Strauss and others have participated is a matter of which I am keenly aware. The discussion of basic conceptual schemes is beyond the scope of this paper; the terms and distinctions here proposed are offered as convenient *axiomata media* rather than as basic systematic thoughts.

which are conceptualized by the members of the society in collective kinship terms, but which are nevertheless without intrinsic form or structure. Thus, the pastoralists of the Asiatic steppe have separate terms for an individual's consanguinei, for his spousal kin, for his paternal kin (agnates), for his maternal kin; they have also conceptualized the unit of exogamy, which is a shifting unit from sibling group to sibling group. But none of these relationships have a social substance; that is, the body of any man's relatives by marriage, or maternal kin, or that group within which he is forbidden to marry, may differ from any other man's; it is without inner organization. Suppose that the rule of exogamy forbids marriage within the fifth degree of agnatic relationship (this has been reported on the steppes). I cannot marry, therefore, a girl whose Fa Fa Fa Fa is the same as mine. It may be that all the direct descendants of that patrilineal ancestor live together in one village, under the same village elder, and pasture their herds and flocks together. But this would be a matter of chance; generally it is not so. They may form a clan, but this too would be a matter of chance. Moreover, it is a rare coincidence that the body of maternal kin or the body of affinal relatives form a discrete social unit, identifiable by other means than the range of application of the collective kinship term by a given individual.

The Mongols of Outer and Inner Mongolia and the Kalmuks of the Volga have had a highly developed and intricately organized religious hierarchy. Likewise, the Buryat shamans are more like an organized priesthood than shamans as such. The religious organization falls outside the scope of this paper, however, for the principles of the ecclesiastic structure are different from those of the politico-consanguineal. It may be noted in passing that the ecclesiastic hierarchy appears to rise, and at times even form a theocracy, when the lay polity of the steppe is in decline. The Mongol and Kalmuk priests are lamas, that is, celibates under vows of chastity, usually living in monasteries. One of the theses of the present paper will be to show how the entire sense of the consanguineal organization is directed to the perpetuation of the male descent line. This is contrary to the sense of the celibate lamasery. If the monks are not always true to their vows, they are to that extent outside both the lay and ecclesiastic systems. It is as though the lamaseries are an escape vent from the rigorous patrilineality of the social system on the steppe where such escape vents are few.

PRINCIPLES OF STEPPE ORGANIZATION

The conjoint political and consanguineal dimensions in the social organization of these peoples has been mentioned, i.e. every political enterprise of theirs has been defined by the agnatic bond. The subjects of a principality were in theory

descended from the same ancestor in the direct male line as the prince. Therefore, recognizing the given structure as political, we may say that notwithstanding, the society was—and is—agnatically defined. The social structure is founded on the principle of patrilineal descent. In the past there were slaves. For a slave to achieve membership in the society he had to be given a fictional kinship relation to his manumittor and a genealogy to bear out the fiction. The patrilineal genealogies may be described as the founding charter, the membership roll, and the rule for admission to membership of these societies. The genealogies make explicit the constitutive elements of the society. Within the genealogies, descent lines are traced and ranked according to the order of birth of the founder. Since the genealogies show the relative collateral rank of a descent line, they define a man's social status.[4] Therefore, they are to this day assiduously kept, and youths of 10 or 12 are able to recount their ancestries through many generations, together with those of closely related collateral lines. Some of these genealogies are 20, 30, 50 or more generations long. The ancestry of Chingis Khan as recounted in the *Secret History of the Mongols*, a 13th century epic, is 24 generations long.[5]

Consistent with the principle of patrilineal descent, the unit of exogamy is a patrilineal unit; the rule of residence is patrilocality; authority is patriarchal or generally vested in the senior male.

There is little relief to this structure of patrileality in the society. The mother is a distaff father, ruling with stern authority the females of the household including her unmarried daughters, her sons' wives, her grandchildren, her husband's junior wives and concubines if the family is polygynous, and other females of the extended family household. She is no warm lap or bosom offering comfort to the child, and the poetry does not conceive of her as such. Mothers are not figures celebrated for their softness. Thus another extension of the same principle—authority by virtue of her seniority of birth for males—gives authority to women by virtue of order of marriage and of order of birth of the woman's husband or father, depending on her status as married or unmarried.

4 Valikhanov, 1904, pp. 161-163, 286. Valikhanov, a Kazakh prince of mid-19th century, has expressed himself on the subject of principles of Kazakh organization as follows: "The very pattern of division upon which the rule of seniority and the power of a tribe rest and which in the mind of the Kirgiz [read Kazakh] is expressed by the law of physical primogeniture, has great significance in their law of descent and has a completely genealogical meaning; for which reason the form of relationship from horde to horde, and within the lineages of a horde among themselves, correspond to the law of blood [agnatic] kinship, and the relation of a lineage to its horde is the relation of a son to a father in the case of the eldest line of the senior horde; and is the relation of nephew to [paternal] uncle above all in the case of the other line, characterizing this patriarchal clan life. . . ."

5 Korbe, 1951, pp. 71-72; *Secret History*, par. 1-60. Cf. the 54 generation genealogy given in Aristov, 1894; also Bogdanov, 1926, pp. 90-92.

The escape from this stark pattern of authority by generation and by order of birth is the warmth of relationships among people of the same generation. The poetry tells of love between friends, betrothed couples, and somtimes siblings.

The relationship both to the maternal and affinal kin is one of respect. In addition, there is an avuncular relationship, but it is a varying one. Among the Monguor of Kansu, a Mongol people under heavy Chinese acculturation, the Mo Br tells a girl who is about to marry that she may always draw support from him.[6] On the other hand, the avuncular relationship among the Kazakhs and the Kalmuks is a rivalrous one. When a Kazakh or a Kalmuk boy comes of age, he is entitled to collect part of his patrimony from his Mo Br, and this is usually resented, for the youth comes from afar under the rule of patrilocal residence, and may disrupt plans for division of his estate among his own sons by the Mo Br, i.e., the Mo Br Sos. The Si So must therefore be ready to drive off his share of the estate of the Mo Br as livestock by night, secretly. This practice, *baranta*, or legal cattle rustling, frequently disrupted the civil peace.[7] Rules had to be devised whereby only three sisters' sons could practice the *baranta*, and then had to divide their spoils among their brothers and cousins who came of age later. On a world scale this form of the avunculate is rare.

The basic form of the cousin system on the steppe, i.e., that of the ancient Turks and Mongols, and of the modern Ordos Mongols, has no term for paternal cross-cousin. (There is a term for Fa Si, but not for her child.) She marries away, and her offspring are not reckoned as kin by her brother's children. However, among the Kazakhs and Kalmuks, Fa Si Ch, is regarded as kin, and is given a kinship term which is the same as Si Ch, a feature of the Omaha kinship system. This term is *zē* (Kalmuk) or *džien* (Kazakh), both etymologically derived from classical Mongol *džige(n)*. This breach in the patrilineal system among the Kazakhs and Kalmuks is expressed in fact by the rules of inheritance of both these peoples. I have rights in a share of my Mo Fa estate, which in fact is a claim on the Mo Br estate, said of his Si So.[8] This statement simply means that the sister in moving off has not completely cut her natal family ties, that she has rights in her father's estate not in her own person, but in the person of her sons. This relationship is only of limited significance in terms of the over-all social picture, but presents an interesting problem. It is closely identified with the shift in cousin terminology which has introduced certain Omaha features onto the steppe, at least

6 Schram, 1932, p. 49.

7 Other circumstances under which the *baranta* was legal were: to collect a debt, a bride-wealth, and a wergeld or blood-money (Valikhanov, 1904, pp. 173-174; Nebol'sin, 1852, pt. 6, p. 129).

8 Balliuzek, 1872, p. 109.

among the Kazakhs and Kalmuks. It is a clear-cut instance of the social dynamism in the behavioral correlates of kinship terminology, to use Murdock's fine phrase.

In the inheritance pattern, a distinction is made between practices regarding the corporeal property and the incorporeal. The family is an extended family, and sons remain by the father even after marriage, as a rule. But when they come of age, usually in their middle teens, they are given their portion. Part of this portion is made over in the son's name by the father to the family of the son's bride, because coming of age is associated not only with receiving of one's share of the patrimony but marriage as well. The bride-wealth (or bride-service for a poor nomad) is the basis for marriage. The son's share of the estate is effectually not his, but remains under the common control of the father; but it is reckoned as the son's. All sons in theory inherit equal shares of the paternal estate. If the son is not yet of age when the father dies, the mother holds his share of the estate in trust until he comes of age.

As to incorporeal property, the ranks, titles, honors of the father go to the eldest son, in whom the authority is vested over the entire extended family. If he is not of age, a younger brother of the father may succeed to the position of head of the family. Here there may be conflict when the eldest son does achieve his majority. Second and third sons might be given a lesser title if the father is a man of high rank; the youngest son usually receives a minor title just as the other younger sons; but in addition, he receives a special title with religious significance. The family hearth is a center of religious rites; the youngest son is residuary legatee of all that part of the estate which the father does not divide among his sons during his lifetime, the residuary estate including the paternal tent and hearth. He receives with the hearth the title of *galīn edzin*, master of the hearth. It is not the case that the youngest son inherits according to the principle of ultimogeniture; ultimogeniture is a principle which assigns the place of principal inheritor to the youngest son. Here in respect to the incorporeal property as well as the authority, the eldest son is the principal inheritor.

The marriage pattern may best be described as a contract by one line for the services of a female of another line in bearing a son. The principle involved is that of lineage exogamy. Contract is used in an extended sense, but in view of the possibility of reckoning fairly exactly the movement of property and other social goods between the two lines, we may use the term. Child betrothal, even pre-natal betrothal, is practiced; the prospective marriage pair is in no case consulted, for marriage is an arrangement between descent lines as corporate units. The family of the bride receives a gift as bride-wealth, which is relatively large. The bride takes with her to her husband's home her own portion as dowry, which is materially

smaller than the bride-wealth, despite the fact that it includes expensive sumptuary wear, such as silver headpieces, silver-ornamented garments, etc. In addition, both families feast each other in relatively equal degrees. Both groom and to a lesser extent his family pay great respect to the family of the bride; and finally, the bride moves from her natal to her marital family. Payment of respect is figurative payment. However, it has economic consequences in associated gifts and services rendered. This total pattern of exchange is sometimes reciprocated over the generations, whereby a girl moves from line A to line B in marriage, while her daughter moves back, as marriage with Fa Si Da and Mo Br So. This practice is found among the Monguor. Much more common, indeed preferred, is Mo Br Da[9] marriage involving a constant flow of women from line A to line B without payment of bride-wealth, i.e. without reciprocity, as Lévi-Strauss has analyzed it. There are arrangements reported of the Kazakhs where families agree to exchange daughters in marriage, and even a type of Kazakh marriage, rare on the steppes, where three families reach an accord, a daughter of line A marrying in B, a daughter of B marrying in C, and a daughter of C marrying in A.[10]

While polygyny is practiced, it is largely limited to the rich and influential. However, the levirate is the rule, creating a family structure similar to polygyny, but different insofar as it involves no exchange of wealth. A widow without sons passes, on the death of her husband, to her husband's younger brother, and exceptionally, to any brother. But this is the case only if she is without sons. If she has a son, she maintains a household apart, inheriting her deceased husband's estate, and holding it in trust until her son or sons come of age. If she has no sons on being widowed, her part in the marriage contract is not fulfilled. She has to remarry within her husband's line, in order to assure the continuity through the bearing of sons. Only if she has already borne a son is she exempt from this practice. The bearing of daughters was not a condition fulfilling the marriage contract, and did not exempt her from the levirate. The levirate is not loved by the women, for they move from a chief place in their own households to a subordinate place in a household with a wife senior to them.[11]

The emphasis of the entire marriage pattern on the bearing of sons is a reflection of the general principle of patrilineal descent and its corollary, the perpetuation of the given patrilineal structure through the birth of sons. The levirate is but one more reflex of that principle, as is the nature of the marriage contract per se. Part and parcel of the entire scheme in regard to the descent practices is the adop-

9 Dyrenkova, 1927, vol. 2, p. 15.
10 Izraztsov, 1897, pp. 73-74.
11 Grodekov, 1889, p. 29; Karutz, 1910, p. 42.

tion procedures. The most common adoption is that of Br So or Fa Br So. The primary reason for adoption is lack of sons of one's own. In the kinship terminology, both Br So and So So are called *ači* in Mongol generally. In Kazakh and Kirgiz they are both called *nemere*. If my own line is in danger of dying out, there is a practice ready to hand, with its terminological correlate to assure its perpetuation.

Since descent lines are collaterally ranked, it is important to keep their members distinct. The terms for parents' siblings are of the bifurcate collateral types, that is uncles are terminologically differentiated from the father, and are in turn differentiated from each other. Moreover, grand-uncles in the fifth generation are distinguished terminologically from the direct ancestor in the fifth generation, and the direct line is traced in the kinship terminology to the grandson in the fifth descending generation. Paternal uncles are differentiated as senior and junior to the father. This will be discussed below.

Further insight into these various principles may be gained by tracing the changing statuses of women in their life cycles. From birth to marriage, the female on the steppes is relatively without rights, she has little socio-legal status. In ancient days she could be sold into slavery in payment of a fine levied on her father for a crime.[12] On marriage she receives her dowry, and over this she has rights which are in general inalienable, but only in general. Under certain circumstances, e.g., if her husband commits a crime, the dowry can be seized and made over in part payment of the fine if he cannot pay it with his own wealth and that of his close kin. Her person could never be seized; she could never be sold. Among the Buryats and Kazakhs the wife achieves even further rights when she has borne a son. If her husband is well-to-do, she receives her own tent to rear her son, and in this tent she is mistress. She now has the right of refusing to marry her husband's brother under the rule of the levirate should she be widowed. She has further right to hold her husband's estate in trust for her son if he was not yet of age on the death of the father. And she can remarry at her pleasure among a wider group of kin.[13] Divorce is easy while she is childless or has only daughters. Once she has borne a son, her husband can divorce her only if he wishes to defy his own kinsmen, for they have a stake in the marriage now; the grandson or nephew is the general concern of the extended family. If a woman has no son, she can be sent back to her father, and the bride-wealth reclaimed. The bride-wealth is lost if she bears a son and then is divorced.

In sum, the steppe pastoral society is a hyper-rigid structure based on the agnatic bond and patrilineal descent. Genealogies are the sole bases for delineation

12 Bichurin, 1950, vol. 1, p. 230 (270).

13 Petri, 1925, p. 13; Khangalov, p. 139; Izraztsov, 1897, pp. 68, 93.

of membership and relative position in the societies. Social differentiation is based on primogeniture; here common descent leads to differentiation rather than equality.

STRUCTURES OF STEPPE ORGANIZATION

During the 19th century, a number of investigators gradually came to a commonly accepted picture of the social structure of these pastoralists. The first of these was A. Shchapov, working among the Buryats of Lake Baikal in the 1870s; the second was Radloff who worked among the Kazakhs and Kirgiz of the southern Altai through the last part of the century; the third was A. Pozdneev, among the Khalkhas of Outer Mongolia in the 1890s. The classical statement of this general picture is that given by W. Radloff.[14]

Radloff describes the core of pastoral society as the family with its common property. Related families and individual poor families as hangers-on form the smallest social group-unit, the *aul*. The Kazakh and Kirgiz *aul* is the nomadic village composed of kinsmen. It corresponds to the Khalkha Mongol *ail*, with which the Turkic term is etymologically cognate. The sedentary village of the Mongour, farmers of northwest China, who speak an archaic Mongol dialect, is *ayir*. In Radloff's account, the leader of each *aul* is the senior member, and that family achieves predominance whose influence is greatest, measured by wealth or physical numbers. The *auls* group into lineages, the lineages into clans, each bearing the name of the founding ancestor. Clan confederations further combine as hordes. But these larger politico-consanguineal units had great fluidity, fluidity of the state-entity being a necessity for the nomads of old. To Radloff, political leadership, whether on the small scale as a grouping of several kin-villages under a mediator *bii*, or on the large scale as a grouping of several clans or hordes under a khan or prince, is always a usurpation.

The theory of usurpation of power by a powerful political personality has been criticized recently by Harmatta.[15] Harmatta argues that merely because a structure is fluid or evanescent it is not without form; that instead of attributing the birth of the state to the momentary impact of some great personal organizing genius, the state on the steppe arose through the disintegration of the tribal organization, in the course of which the tribal society was transformed into a class society. The two viewpoints are not necessarily incompatible. For example, after the establishment of states and empires, the consanguineal bonds of the societies continued to form the basis of citizenship; and even after the state system disappeared the consanguineal structures which remained continued to maintain political func-

14 Radloff, 1891, pp. lii-lv. For others, see below.
15 Harmatta, 1952, pp. 283-284.

tions, including tax-collection, troop levies, mediation of disputes among smaller kin units. The usurpation is not a normal procedure on the steppe, although there may have been individual cases of usurpations. The norm was rather ascribed status in the ruling stratum by right of birth, i.e. descent from a past leader, such as Chingis Khan. For example, among the oldest records that give details of the pattern of rule among the nomads are the Chinese documents of the 6th and 7th centuries AD bearing on the eastern Turks. According to these documents, the usual pattern was succession of the son to the throne of the father.[16] In 611 AD there was an instance in which the Fa Br succeeded to the throne of the son who had inherited it from his father. However, we infer that the son had died without issue, and that the throne then passed to the next collateral line. Yet succession in the senior paternal line was not always carried out. There was one instance in the year 573 AD when a prince cut off his own son and gave the succession to his younger brother. This younger brother later cut off his own son and gave the throne back to his older brother's son, thus restoring the senior line. In this case, however, the people said that the mother of this son was of low estate, and gave the throne back to the younger brother's son.[17] Succession was governed by the rule of primogeniture among the 19th century Kazakhs (see above), Khalkhas, and Kalmuks.[18]

Among the Buryats, Shchapov found a similar hierarchy of structures.[19] The Mongol *ail* corresponded to the Buryat *ulus*, composed of a series of enclosures in circular or elliptical form. Each enclosure is an extended family, together with adherents. Collaterally descended families occupy neighboring enclosures, and in more distant enclosures live more distant agnatic kin. Yet further related kinsmen live in other *uluses* with similar inner organization. The entire group of related *uluses* form a single clan divided into genealogical branches as *ulus* communities, just as the *ulus* communities are divided into smaller family communities.

An identical structure is attributed to the Khalkha Mongols by Pozdneev. Here the social unit is again the extended family composed of persons descended from the same ancestor over three or four generations. The head is the eldest member of the family. Neighboring families are more distant relatives, groups of related families occupying a common territory form a kin-village.[20]

So powerful was this idea of the organization of the steppe nomads that it was taken as a model for the description of the Kalmuks by Leontovich who, however,

16 Chavannes, 1900, p. 26.
17 *Idem*, pp. 23, 48.
18 Timkowski, 1827, vol. 2, p. 321; Bergmann, 1804-1805, pt. 2, pp. 305-306.
19 Shchapov, 1874, pp. 129-130.
20 Pozdneev, quoted in Riasanovsky, 1937, pp. 212-213.

had no first-hand knowledge of this people such as Shchapov, Pozdneev, and Radloff had of theirs. On the other hand, Pallas in the 18th century has a parallel description of the concentric Kalmuk organization but this time in political terms.[21] As a point of departure, this general picture of the social structure is a useful one. Ideally, the extended family does group into kin-villages, although by the end of the 19th century, when acculturation had proceeded rather far, such a rule must have been honored more in the breach than in the observance. Radloff's village was no longer bound together by close ties of blood.[22] In areas of the steppe where acculturation had not proceeded so fast, as among the Buryats, Petri[23] still found early in the 20th century a close correlation between kinship and common territory; this was axiomatic for Bogdanov, a contemporary native Buryat.[24]

The unilineal kin unit as a corporative structure has been well analyzed by Fortes. Its primary attribute is perpetuity, that is, its capacity to survive the individuals who form its membership at any point in time.[25] This corresponds to Maine's analysis of the corporation as a perpetual structure. To Maine's criterion Fortes then adds Weber's, and above we have shown how the genealogy supplies functions which meet Weber's criteria of the corporation, as a unit with a locus of authority and rules of membership. These we may call the constitutive elements of the corporation. Fortes, bearing the African social structures chiefly in mind, restricts his attention largely to the lineage.

If we agree that a lineage is a structure intermediate between a kin-village and a clan on the range of unilineal social structures, then the lineage on the Asiatic steppe conforms least to the theory of the corporative consanguineal entity, for it definitely lacks an internal structure, a locus of authority, a clear territorial delineation. It is a perpetuating structure of weak constitutive elements.

The extended family has its collective property under the rule of the patriarch, its own territory for grazing, its common religious functions. The personality of the patriarch as the locus of family authority is sharp and unmistakable. Unlike the conjugal or simple family, the extended family is defined as one in which the man's natal family is identical with the family he procreates. The extended family is a unit of perpetuity, for it survives the life of any individual member.

The ideal village is similarly constructed, with a seat of authority, a common territory, a common set of agnatic bonds, etc. The collective property is weak or

21 Pallas, 1771, vol. 1, pp. 328-329.
22 Radloff, 1893, vol. 1, p. 513.
23 Petri, 1924, pp. 5-6, 11.
24 Bogdanov, 1926, pp. 90-97.
25 Fortes, 1953, pp. 25 ff.

non-existent, but grazing lands are jointly administered, and the annual nomadic grazing cycle is followed together. The clan likewise has a common locus of authority, a common territory wherein grazing lands are jointly administered under the direction of the clan chief whose main function in this regard is the settling of disputes over pastures among the clansmen. The lineage alone has no morphological features.

The unit of exogamy is the lineage. That is, a youth is forbidden to marry anyone who shares a common patriline in a given number of generations. As a rule the number of generations within which marriage is proscribed, i.e. the prohibited degrees of agnatic relationship, is seven. At times it has been reported as high as ten; and latterly under conditions of severe acculturation it has shrunk to five and even three generations. But the central tendency has been seven. Whatever the specified number of prohibited degrees may be, however, the fact remains that my father's exogamic unit is not my own; I may marry a girl whose mother my father could not have married. This shifting unit cannot have a morphology of its own, that is, it has no seat of authority, no territory, etc. It is a unit abstractly existent to be evoked at will, that is, when it is required to affirm or reject the possibility of a proposed marriage.

The steppe lineage, despite its amorphous nature, is a named group. It is defined by the number of generations comprised in the lineage out of the total number of direct male ancestors in the geneaolgy. Its name is the eponymous name of the ancestor who stands at the head of the lineage. However, lineages vary in length according to the purpose for which the segment of the total genealogy is demarcated. To this extent it is an operational concept. It may be seven generations long and given the name of the ancestor in the seventh generation in determining the exogamic unit. The lineage may be five, seven, nine, or any other magic number of generations in length in a ceremony of ancestor worship; or it may go as far back as a famous ancestor to be evoked in a battle-cry in time of war. In these battle-cries (*uran* in Turkic, related to English "Hurrah") an ancestor who had fame as a warrior is acclaimed by a group of his descendants who assert their unity with him and with each other and the courage of that unity in his name.

Among the steppe pastoralists, Turks and Mongols both, the clan is generally *omok* or *obok* (*-m-* and *-b-* in intervocalic position are allophones of the same phoneme). The clan is sometimes known as *otok* in Kalmuk and *uruk* in Turkic. It is always a named group of common patrilineal descent from an eponymous ancestor, real or mythical. Descent from that ancestor is traced in reality or by a fiction through genealogies. The clan is composed of a series of ranked collateral lines. It occupies a common territory, maintains religious rites in common, and is ruled by a clan chief. By way of example, there is a list of clan chiefs of the

Kazakh hordes by name, together with their rank, the names of their respective clans, the number of people in each clan, and the towns with which they habitually traded. This list was compiled in the year 1803 by a Tatar merchant, Shakhmuratov, serving as an agent for the Russian government.[26]

The veritable corporative structures had until recent decades a number of political functions: the clan was a unit of tax-collection, both in labor and in kind, and it was a unit of military levies, supplying a company or troop to the army of the prince. It distributed these various burdens among its component villages, and these in turn made exactions upon the extended families. The clan leader adjudicated disputes between villages or between families. Further than this the law did not go. The regulation of life within the family was left to the family itself; that is, settling of intra-family disputes was left to the patriarch, theft or adultery among family members was left to the family for punishment. Thus the smallest socio-legal unit, the smallest legal personality, was the extended family.

Systematic concepts of criminal law have not been fully worked out on the steppe, but to the extent that they were, the unit of responsibility for the crime of an individual was the family collectivity. Moreover, if an outsider suffered an injury within the domain of a given village and guilt could not be fixed, the village might collectively be liable for damages in any action. And a clan similarly could be held responsible if guilt could not be more precisely fixed. Punishment usually took the form of fines levied on the smallest unit accordingly determinable. In the case of murder or physical injury, a wergeld or blood-money was paid. The member of the family directly responsible paid the largest share, but close kin contributed also, and more distant kin as well, on a decreasing basis. The closest kin of the victim received the largest share, and more distant kin proportionately less.[27] Such a distribution of wergeld is described in early Irish law.

The units of legal responsibility—and, be it added, legal interest—correspond to the units of corporative structure. These are also the basic economic units and the political units. They are the extended family, the kin-village, and the clan. In contrast to these social structures, the unit of exogamy is an entity of an entirely different order. The unit determined by Fortes to be the embodiment of the corporative principle in Africa, the lineage, is in fact not the ideal embodiment of this principle on the Asiatic steppe. The corporative principle is somewhat different in details of its application between Africa and Asia. Nevertheless, the general theory of corporative kin groups of unilineal descent is equally well exemplified in the pastoral societies of Central and Inner Asia.

The interrelationship of political and consanguineal organization of the peo-

26 *Materialy*, pp. 512-516.
27 Izraztsov, 1897, pp. 12-14.

ples of the steppe was alluded to in the controversy between Harmatta and Radloff. And again, the political and consanguineal elements are both to be found in Kalmuk society in Pallas's 18th century description.[28] The chief of the entire society was a supreme ruler or Khan. His domain was divided into four major divisions, and these in turn into a number of *uluses* or provinces at the head of each of which ruled a prince *(noyon)*, over whom the Khan had little authority. The four major divisions *(oirat)* were actually the largest units where common descent was genealogically demonstrable. Each *ulus* was in turn divided into a number of *aimaks* over each of which ruled a *zaisang*. The Khan and the *noyons* and their immediate families comprised the higher nobility, the *zaisangs* the lower nobility. "Each *aimak* is divided according to pasture again into communities of ten to twelve tents which comprise a *khoton*. . . . There are officials over each *khoton* who owe obedience to the highest *zaisang* of their *aimak*, just as these obey the *noyon*. The *noyon* receives from his subjects a tithe of all stock annually." The *noyon* has the right of corporal punishment over his subjects, but not the right of death sentence. Each of the communities or *khotons* was composed of a number of closely related families; neighboring *khotons* in an *aimak* were more distantly related. In addition to the tax and adjudicative functions each of the units was subject to a troop levy.

Bergmann has corroborated Pallas's description. Between Pallas's day (1760s) and Bergmann's (1802-1803) a number of radical changes had taken place in Kalmuk life. For one thing, as many as half the Kalmuks had left their pasturage on the lower Volga to return to China early in 1771. Again, some of the Kalmuks had joined in the revolt of the Russian Pugachev against the Russian crown and some had allied with Russia to suppress the revolt. The Russians had deprived the remaining Kalmuks of the rank of Supreme Khan, and permitted retention only of the title of Vice-Khan. This title was now permanently lodged in one of the four major divisions, the Dörbet. After the Vice-Khan were the *taishi*, the highest nobility under the crown. The four major divisions were now divided into fourteen *uluses*, each with a prince *(noyon)* at the head. The *uluses* ranged in size from 6000 to 10-15 tents or families. The entire system was more firmly tied to the authority of the Vice-Khan than it had been in Pallas's time; from each of the major divisions a fixed number of eight councillors *(zargachi)* were supplied who regulated the affairs of all Kalmukdom as well as the relations between the Khan and the *uluses*. In addition to the council of state the Khan had an indeterminate number of privy councillors *(tüshimel)*. Taxes *(alba)* were levied in kind on two bases—according to the number of tents in a community, and according to the herds of the individual owners. As in Pallas, Bergmann has the *ulus* divided into *aimaks*, each

28 Pallas, *loc. cit.*

aimak ruled by a *zaisang*. These *aimaks* were composed as a rule of 200 to 300 tents. Succession passed to the eldest son among all levels, low and high.[29]

Russian contact had reinforced briefly during the period of Bergmann's stay a political system which had been disintegrating during the 18th century. With intensification of Russian influence through agriculture, trade, and closer political surveillance, native political institutions collapsed, and the consanguineal system gradually transformed itself, so that by the 20th century it had changed into a system which Borisov and Aberle have noted. The unit of exogamy is now the village or neighborhood rather than the lineage; the tracing of descent lines was discontinued; a system of patronymics is now the basis for clan identification rather than genealogical trees. Collateral ranking of descent lines has likewise disappeared, for this system is incompatible with exclusive use of patronymics in clan identification. On the other hand, the Omaha cousin terminology continues in force (Aberle), and primogeniture governs the succession to leadership both in the family and in the clan. (Aberle has found that the first-born succession is no longer practiced by Kalmuks today.) The transition which the Kalmuks underwent during the 19th and early 20th centuries parallels the transition which the Monguor of Kansu, the Uzbeks, the Bashkirs, and many other erstwhile pastoralists have undergone in the process of sedentarization.

The problem of acculturation aside, the conjoint politico-agnatic categories used by Pallas and Bergmann to describe the Kalmuks are found among the Buryats, the Kazakhs, and, with important variations imposed by the Manchu political system, among the Mongols of Inner and Outer Mongolia during the same period, the 17th-19th centuries. Each kinship structure—the extended family, the kin-village, the clan—was composed of a group of agnatic kin and their wives, concubines, and other adherents. Each kin unit was simultaneously part of a political system, performing political functions including the payment of taxes, judging and policing, raising an army, fighting wars; the territory of each state was defined and defended as well as possible. The Khan was surrounded by a court and courtiers, both lay and ecclesiastic.

The lowest of the nobility or the highest of the commoners were a group of men who had a special social position—those freed of tax—and who formed a separate descent group. While each individual descent line had a proper name of its own, this entire class of people was known as *darkhan* (plural *darkhat*), a term possibly of Persian origin which has the literal meaning of smith in Mongol. The *darkhat* are above the commoners (*albatu*, the tax-burdened, from *alban* tax), but are below the nobility in rank. Among the Buryats the *darkhat* form a separate descent line and a group of specialized religious function, in rank below the

29 Bergmann, 1804-1805, pt. 2, pp. 30-37.

regular shaman-priest class, outside the lay social hierarchy. They propitiate a group of smith-spirits also known as *darkhat* from whom they are descended.

The manifest political structure of the various steppe societies may be now integrated with the theory of the corporative kin group. The corporative structure does not necessarily have a political form as we know it in Western society. Nevertheless there is an implicit political organization in the corporative kin group. It is defined as a group having a locus of authority, rules of membership, an internal structure, and a perpetual life. It is conceivable that such a group may be a flat structure, that is, that it does not form part of a hierarchy. Such a situation would be realized if the corporative groups in question were a number of extended unilineal families or kin-villages, each forming an exogamous unit, joined with other such units in a common territory and recognizing a common tribal name for all. This system is found among some of the Tien-Shan Kirgiz and the Turks of the Altai Mountains. Among the Kazakhs and the Mongols, however, the various named groups form part of a hierarchy extending from the corporative family to the confederation of clans, a horde, a principality. The hierarchized nature of the various kin groups among these latter of itself requires and calls forth a political being, in which the subordinated elements pay allegiance and owe obedience to the super-ordinated in the person of the head of the principality. Subordination and super-ordination, in turn, require a supreme locus of authority as the center of a system in which all other loci of authority take their places.

When Harmatta seeks for the conditions of the birth of the state in the dissolution of the tribal system he is pursuing an argument with the concept of unilinear evolution as the suppressed premise. The fact that on the steppes of Asia a system of states arose in a matrix formed by the continuing existence of a web of agnatic relationships is a special condition of the history of the societies of the steppes. In the ancient Near East, in the societies of classical antiquity, and feudal Europe, on the contrary, the fact of a primal consanguineous (unilineal) bond is of interest only genetically. The social structures of these societies during their florescence had no significant consanguineous structure. They were by then politico-territorial unities, not consanguineal.

Comparisons with Western institutions may bring out significant features of steppe society. In seeking to make meaningful to Western readers the polity of the Asiatic steppe, many writers have shown parallels between the European feudal regime and the nomadic. The retinue of the feudal lord has its parallel in that of the steppe prince; the division of society into nobility and commonalty is among the traits of social organization shared by both cultural worlds. Moreover, the feudal lords maintained a line of descent separate from the commoners: purity of birth is a basic feature of the European nobility. We have seen how the steppe

nobility maintained itself as a separate lineage system, albeit within the framework of common descent of the entire society. However, feudal analogies may be stretched too far. First, the feudal lord had no distinction between his public and his private person: he was the private landowner and the public seigneur of his domain. Servile payments, both in kind and in corvée or labor service, were rent and tax combined. In the masterly summation of Maitland,[30] feudalism had no distinction between public and private law. The Mongol or Turkic princes on the other hand had a clear distinction between the public fiscus and their private wealth. They had their own herds and lands, and their own commoners to tend them. The commoners in direct service of the prince were known as *čaxar* in Classical Mongol according to Kotwicz.[31] These crown commoners lived on the herds of the prince or noble. In exchange, they paid a private due or rent, both in kind and in labor-service, to the prince as a private person. There were other commoners, the ordinary *albatu*, who were not in the direct and permanent service of the prince. They paid taxes *(alban)* to the state under the authority of the prince, supplying a portion of their herds to the state herds, and performing corvée and military service. Both crown and public commoners were required to perform corvée in the post and communication system of the state, maintaining the horses in the communication system, and to serve as soldiers. The two categories of commoners and the two kinds of herds in the public and private treasuries, were kept separate.

Second, the social bonds, the sources of social unity, are different in feudal Europe and on the Asiatic steppe. The feudal unit was an agnatic unit by origin but during the period of florescence, as we have noted, it was territorial. On the contrary, the Mongols traced a common male ancestry with their supreme Khan. The Kazakhs likewise, from the humblest to the highest, were all united by the common agnatic bond, that is, by descent from a common ancestor, *Alash*. Both these relations obtained at the beginning and during the flowering of the culture. The importance of the genealogies, their very length for the tracing of the bond, can thus be readily understood. The state system on the steppes is thus an anomaly insofar as it was founded among a series of peoples whose political structure was at the same time consanguineal. The anomaly is only a seeming one, however, because the corporative unilineal structure itself called forth the state system; that structure found its expression in the state. The society of the steppes is a consanguineal unity with which a politico-territorial unity was combined and interwoven. This consanguineal unity is missing in feudalism, or perhaps is not so important.

There are a number of other differences between feudalism and the nomad

30 Maitland, 1908, pp. 23-39.
31 Kotwicz, 1949, p. 168.

polity. The vassal idea, whereby the lord and his vassal were bound by a set of mutual obligations of fealty and support is not found on the steppe. The pastoral Khan was an absolute ruler when he could find the military force to support him. And such ancillary feudal doctrines, such as "The vassal of my vassal is not my vassal" is missing on the steppes, for the Khan had in theory universal control. The theoretically absolute control by the Khan empowered him to raise a commoner to the nobility for valor in war or simply because he could write. On the other hand, the wergeld or blood-money for injury was practiced in both feudal Europe and the Asiatic steppe, and from time to time a theocracy has arisen in both areas. In sum, the feudal analogies are often suggestive and have a definite heuristic value. But the basic structural features of European feudalism and those of the steppe polities are different.

The collateral ranking of descent lines created the possibility for the division of the societies into social classes, nobles and commoners. On the one side, all men were brothers and cousins. On the other side, no man was his brother's equal. The first-born outranked his junior brothers; his line outranked the lines of his juniors. Out of this system of collateral ranking emerged the social cleavage within the common agnatic matrix. The kinship terminology is a sensitive expression of the social division. In all these societies, there is a term for older brother, *axa*, a term for older sister, *egeči*, and a term for younger sibling, *degü*, optionally further distinguished as to sex. Children of the Fa Br, the paternal parallel cousins, are similarly differentiated: Fa Br So senior to me is *üye axa;* Fa Br So junior to me is *üye degü*, etc. Fa Ol Br is *abaga;* Fa Yo Br is *axa*, the same term as Ol Br; thus there is generation up-grading. Wives similarly differentiate the husbands' brothers and husbands' paternal uncles according to seniority at the concomitant up-grading. Fathers so differentiate their sons and grandsons. Thus in the extended family, as well as in the society at large, no man has his social equal. Women marrying in are ranked according to the status of the husband and his line. The system thus delineated is the Classical Mongol system (13th to 17th centuries), which is found in one etymologically related variant or another everywhere on the steppes.[32]

The system of ranking by seniority of birth and up-grading by a generation those who are senior is found among the Finno-Ugrian peoples, who occupy the Eurasiatic forests north of the steppe. Among the Votyak, Cheremis, Mordvin, Lapps, etc., it is characteristic that the siblings are differentiated by sex and seniority, and at the same time, the Fa Yo Br is called by the same term as the Ol Br, and the Fa Yo Si by the same term as the Ol Si.[33] One of the most interesting

32 Kowalewsky, 1844-1849, s. v.
33 Ahlqvist, 1875, p. 211.

traits of the Finno-Ugrian system of kinship terminology is the strong emphasis on age-difference *(starke Betonung des Altersunterschieds)*.[34]

The Altaic system of collateral ranking is not a timeless one, however. Unless there were an infinite number of gradations of the *aristoi*, eventually the cadet branches of the first-born line would lose their patent of nobility. But there was neither an infinite number of gradations nor did the lesser nobility lose their status. History enters into the picture. The line of primogeniture and those lines close to it formerly had flowed imperceptibly into the lesser lines. As the result of an event at a given point in time they ceased to do so. The cleavage between the upper and the lower and the resulting division into the social classes took place on the occasion of a migration, a fusion of lineages, or a war. These recurring phenomena are part of the culture and history of the steppe; they are documented in the *Secret History of the Mongols*, in the history by Rashid-ed-Din, and by incipient developments in the 18th and 19th centuries among the Turks of the Altai Mountains and Kirgiz of the Tien-Shan range. These two latter groups were despised by their neighbors, the Kazakhs, because they lacked a hereditary nobility. The Kirgiz communities were ruled by a number of elective, non-hereditary *manaps*.[35] A *manap* would seek to bequeath his position to his son when he had gained a greater following through lineage fusion or through a successful raid, etc. To this limited extent, and only to this extent, is Radloff's view on usurpation justified. His view fails because it does not take cognizance of the total consanguineal matrix within which such a usurpation could take place, a matrix which developed among all the steppe peoples into a system of ranked collateral lines. The authority in the senior of these lines was as ephemeral among the Altai Mountain Turks and the Tien-Shan Kirgiz as it was in the empires of their neighbors.

The political state of the Asiatic steppes contained as a part of its structure the concept of social inequality, based on a consanguineal principle of ranking lines of descent. The corporative hierarchically ranked structure of the patrilines achieved political expression in the state.

NATIVE CONCEPTUALIZATION OF PRINCIPLES OF SOCIAL ORGANIZATION

The Turks and Mongols of the steppe world have achieved an expression of the principles of their social organization. This expression is a set of abstract terms which simultaneously have a concrete application. The principle of patrilineal

34 Harva, 1939, p. 98.

35 Radloff, 1893, vol. 1, p. 533. For considerations on election of chiefs among the Altai Turks, cf. Potapov, 1953, p. 296. Potapov states that election there was, but from among a limited group of "aristocratic" lineages. Unfortunately, he has not documented his case. These "aristocratic" lineages are not true noble lines, rather descent groups of identical form, but of greater prestige than the others.

descent and membership in a common line of paternal descent is characterized as "bone" and membership in a "bone." In Mongol the term *yasun* means literally bone, part of a skeleton, and figuratively the principle of patrilineal descent. In ancient Turkic (6th-8th century) and in certain modern Turkic languages, including Kazakh, Kirgiz, and Turks of the Altai Mountains, *sŭŋŭk/süök/seök* has the same literal and figurative meanings.

The great Orientalist, Kotwicz, has written that on the steppes ethnic groupings may appear under various names. "The groupings, fundamental units of a sort, in the social structure of the nomadic peoples, are the 'bone' (Turk *süök*, Mongol *yasun*) and the clan (Turk *omuk*, Mongol *obog*). They appear on the same level, but are rather clearly distinguished and bear different names." And again, "The bone unites the individuals who have a common origin and a common ancestor, while the clan is a larger and more open organization, whose basis lies in social, political or economic relations. The bone is a closed, agnatic organization and its limits are well defined; the clan undergoes transformations more easily and can even disappear." The two organizations, he continues, mutually interpenetrate each other, and parts of one and the same "bone" may be found in different clans. "Bones" and clans are united in larger social units which Kotwicz renders as tribe *(aimak, otok)* as well as clan confederations.[36]

The analysis of Kotwicz is in general correct: the clan exists on the steppe as a concrete existing social unit; the "bone" is indeed a set of agnates. The clan as an existing entity may come into being and go out of being. But in one sense the "bone" is not an organization of agnates; the "bone" is in one of its meanings not an organization or a group at all, elsewhere it is a specific, named group. In the early 14th century, a Persian savant was employed in the service of the Mongol empire and wrote a history of the Mongols. The opening passages of this history deal with the social organization of that people. He wrote of the Mongol clan ancestors and their descendants, "Each of their branches was defined and known under some name and appellation, and formed a separate clan *(obok)*. By *obok* is meant those who belong to a definite 'bone' and kin. These *oboks* in turn ramified."[37]

In the *Secret History of the Mongols*, where the term *yasun* occurs, it is used in a grammatical construction different from that of veritable, concrete groupings. In one of his early battles, Chingis Khan plundered one of the enemy nomadic peoples, the Taichigud, and slaughtered the men with *(-tai)* the bone of the *Taichigud (tayičʼutai yasutu gūʼūn)*.[38]

In the usage of the Ordos Mongols, a people living today in the Ordos region

36 Kotwicz, 1949, pp. 160-161.
37 Rashid-ed-Din, 1952, vol. 1, pp. 153-154.
38 *Secret History*, par. 148.

of Inner Mongolia, a contrasting locution has been reported, *yasun töröl, maxan töröl* literally kin in the "bone," kin in the "flesh," actually paternal kin, maternal kin.[39] Generally, *töröl* means consanguine, consanguineal kin, both in Ordos Mongol and in Classical Mongol.[40] Among the Chahars, another Inner Mongol people, *töröl* designates a far more limited kin group, the patriline in direct ascent to the fourth generation and in direct descent to the fourth generation—to Fa Fa Fa Fa and to So So So So, thus nine generations in all, including ego's. (Nine is a magic number in this part of the world.) While *yasun* as a kinship term is universally distributed on the steppe, *maxa,* literally flesh, signifying maternal kin as a paired locution, is found only among the Ordos of all the Altaic-speaking peoples.

The Ordos expression *yasun töröl* may be rendered "kin by virtue of a [common] 'bone'." Here the "bone" is the principle of common descent which makes men kin to each other.

In a second, limited usage, the "bone" designates a specific consanguineal group without intrinsic structure, the exogamic unit. The Kirgiz of the Tien-Shan (sometimes called Kara-Kirgiz or Black Kirgiz) and the Turks of the Altai Mountains (Altaians, Teleuts, Altai Kalmuks) do not have a hereditary nobility and a hierarchized social organization of the type developed on the steppes. These are Turks who occupy a refuge area, who have either remained away or fled from the wars and social turmoil of the steppe. That which unites these peoples is a common descent for all members of the group, that is, membership in a common "bone" *(süök).* These mountain Turks live in societies ". . . whose members preserve a consciousness of common blood origin; among the Altaians, the members of one *süök* cannot marry each other, and call each other brothers in the 'bone'." The *süök* is seen here as an exogamic unit, but one without any intrinsic or concrete form. It has no leader, no specific economic organization or functions, no religious rites which might give it a substance of its own. Kharuzin and Aristov, the proponents of this analysis of the Altai and Tien-Shan Turks, contrast this type of organization with that of the Kazakh-Kirgiz who have a system of clans which are grouped into clan confederations, the clan-confederations into hordes, etc. The clans themselves are in turn composed of lineages (which these authors call sections), these into sub-lineages (which they call sub-sections), and so forth.[41]

The hierarchizing tendency of the lines of descent was lost among the refuge area Turks: this tendency is a factor only among politically (and militarily) powerful peoples of the steppe. Stripping away the hierarchizing principle and the political organization which is its concomitant, these peoples were left only with

39 Mostaert, 1941-1944, s. v.
40 Kowalewski, 1844-1849, s. v.
41 Kharuzin, 1895, pp. 58-59.

the consanguineal core of their social organization, the pattern of common descent. Here the "bone" is a self-perpetuating unit without hierarchizing power. Hence the political structure is weak, the division into classes is lacking, and there is no firm locus of authority.

Again, in the analysis of one of the northeastern Kazakh groups, Rudenko has given a schematic picture of the hierarchy of patrilines. The clan *ruu* (from *uruk*) is divided into lineages *(byr top);* these in turn are divided into *süök* sub-lineages. This schema agrees with that of Aristov and Kharuzin. These northeastern Kazakhs are neighbors of the Altai Mountain Turks. However, the *süök* is a unit of exogamy, a fixed unit of seven generations among the northeastern Kazakhs. The Altai Turks, whose unit of exogamy is the *süök,* do not specify the number of generations, i.e. the number of prohibited degrees of agnatic kinship in marriage. The *byr top* is a term for a grouping without reported functions.[42]

In a third, also limited, usage, "bone" means a specific kin unit on the order of a lineage or clan, or the entire body of one's living, agnatic contemporaries. Where the principle of the patrilineal bond is meant, "bone" is not qualified as a named group; rather, the "bone" is conceived by the Turks and Mongols in this sense as an attribute of the member or membership in a given structure. But where the "bone" designates a concrete, specified structure, it bears a name like any other structure. For instance, a 17th century Mongol historian has a passage in which one man addresses another as his *kuda,* of the "bone" called Kiyud and the clan called Borjigin.[43]

Zaya Pandita, a Kalmuk sage of the 17th century, has a similar usage, describing a man as being of the Khoshut *yasun* and the *Göröchin otok* (clan).[44]

The "bone" is at times a clan-like structure but only under certain conditions. The two Mongol writers have used it in the latter sense, as analogous to the clan, when their peoples, the Ordos in the one case, the Kalmuks in the other, were undergoing a great political development. The consanguineal structure of the society tended to become more intensively hierarchized—"overburdened," held in place and reinforced by the political. We have seen how the consanguineal groups of the Altai and Tien-Shan Turks tended to lose their hierarchizing structure to the extent that they lost or never achieved a full political development. Kotwicz therefore has a correct interpretation of an era of steppe culture history when there was an over-development of one element of the social organization, the political. Such asymmetrical tendencies are ever-present on the steppe, because the balance between the consanguineal and the political is a tenuous one.

The term "bone" is to be differentiated from the designations of collective

42 Rudenko, 1930, pp. 58-60.
43 Sanang Sechen, 1829, p. 62.
44 Vladimirtsov, 1934, p. 132.

kinship relations, i.e. those without intrinsic structure. We have seen above how the Ordos Mongols have a paired locution for paternal and maternal kin. This is not the usual one. All Mongol groups, including the Ordos, and some Turkic (Kazakh, Kirgiz) peoples designate the maternal kin by some derivative of the term for Mo Br, *nagaču,* in plural *nagačunar* in Mongol. The Mongols in general use the other uncle term, *abaga,* literally father's brother, in the plural form *abaganar* to designate paternal kin. The Turkic nomads use the binome *ata-bala,* literally father-child, to designate the paternal kin. There is a term for descendants: Mongol *üre,* Kazakh *urym butak.* The Mongol term for generation and kin on the same generation is *üye,* which is the root for father's brother's child, *üyegeli.* Keeping count of the generations is important for fixing relative rank and status, determining eligibility for marriage, etc.

The interrelation between the political and consanguineal in structure as well as function was set forth above. The conceptualization of the abstract consanguineal principles which underlie the political structure has now to be described. Just as the political and consanguineal interweave in practice, in like manner the relevant concepts and their verbal expressions interweave. The society is divided into two social classes—leaving the slaves apart and the lamas apart. The lay consanguinei are distinguished as white "bone" *(čagan yasun)* which is the nobility, and black "bone" *(kara yasun)* which is the commonalty in Mongol. In Turkic, the nobility is *ak süök* or white "bone," and the commonalty *kara süök* or black "bone." The "bone" is the common patrilineal principle which joins all the Khalkhas, or Kazakhs, or Buryats, or Kalmuks as the case may be, into a single social entity. The society is divided into two "bones," and the "bones" are differently colored, each corresponding to a social class.

That the steppe nomads have achieved such levels of abstraction in their social thought as to differentiate between principles and structures in social organization is not surprising. They have had leisured thinkers who have speculated on the nature of the social essence. Their kinship structure and the political with which it is interwoven evolved into a system of patrilineality and agnation of an inflexibility found in few other parts of the world. No social grouping of any permanence among them is founded on a principle other than the patrilineal. Similarly, they have no consistent pattern of behavior in their avuncular relations and in relations with the maternal kin generally, e.g., in marriage practices. Compensatory relationships affording escape from the pattern are found only outside the politico-consanguineal system, e.g., in the lamaist hierarchy, in shamanism, in institutionalized friendship.

The patrilineal principle of these peoples, expressed in the concept of "bone," is embodied in a system of unilineal, corporative kin groups; these groups are

hierarchized in concentric circles of widening scope and power. Within the hierarchy of kin groups the political organization takes its characteristic form: those steppe societies which are endowed with the patrilineal principle, but lack the hierarchy of corporative groups, have little or no inner political organization. Therefore, we may say that it is out of the hierarchical power and authority of the unilineal kin corporation that the political form emerges.

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BLOOD-TYPES AND MATING PATTERNS AMONG NORTHWEST COAST INDIANS

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DURING THE PAST FEW YEARS, the University of Washington has been so fortunate as to receive, for purposes of medical and biological research, certain funds derived from the licensing of establishments serving alcoholic beverages. So financed, a study of the human biology and physical anthropology of the Indian population of the State of Washington and adjacent areas has been launched. This paper, a report on the distribution of blood-types among the Indians, and of the relationships between that distribution and the mating patterns of the populations concerned, is one of the results of this general survey, which, of course, is still in progress. Up to the present blood has been taken and typed from some 1,200 persons socially classified as Indians, in the area extending along the Pacific coast from the southern part of Puget Sound north to the Queen Charlotte Islands.

Tests given include those for the ABO series, the MN series, and when possible the subtypes of the RH series. Coöperation for the survey was gladly given by most of the Indians as well as local doctors and schools. Each person tested was given a card recording his own blood-types. Records were also made available to doctors. Blood was obtained from the ear lobe, since only a small quantity was needed for the biochemical analysis, which was performed in the field. The antisera for the RH subtypes did not always preserve well under field conditions, since some areas, especially along the Pacific coast of Vancouver Island, are not rapidly nor readily accessible. As a result data with respect to RH subtypes must be treated with extreme reserve, and are not elaborated in the present paper.

The actual frequencies of blood-types among those groups of Northwest Coast Indians already studied are presented in Tables 1, 2, and 3.

All of the population groups among which work was accomplished are included separately in these tables, but it is recognized that in some cases the numbers typed are far too small to be considered as representative—the Haida, for instance. The Kwakiutl group is composed of twenty Kitamat and eleven Bella Bella, the Gulf of Georgia Salish of representatives from seven different villages, some on Vancouver Island, others on the mainland of British Columbia.

A number of individuals of mixed ancestry appear more than once—in the Makah Mixed and the Makah Nitinat, for instance.

FIG. 1. Distribution of the Northwest Coast populations mentioned in the text.

The Nitinat group includes some individuals who are partly of Central Nootkan ancestry.

The Port Madison group includes many Klallam and part Klallam: genealogies have not yet been worked out for all of these individuals. The various population groups are presented, in the tables, in an order roughly north to south from Haida to Quilleute, then inland to Puget Sound. It is, therefore, easy to compare neighboring groups since they are found placed adjacent to one another in the tables.

Both Ride, and Gates and Darby, have previously published the results of blood-typing studies among the Coastal Indians of British Columbia, confining their investigations, however, to the ABO series. Ride obtained a greater number of Kwakiutl (including Kitamat) than we, but his gene frequencies are only slightly different.[1]

However Gates and Darby, working only with older subjects, obtained rather less A and a bit more B: it was their conclusion that there has been an increase in Caucasian intermixture in recent years.[2]

A major problem has been to ascertain the extent of non-Indian intermixture in the population classed as Indian. Plenty of opportunity for such mixture has existed, and one of the chief duties of field workers was to obtain as much genealogical data as possible on all subjects tested. In no case, however, did this go back nearly far enough to exclude the possibility of miscegenation with early explorers. We are in no position to demonstrate that any given individual is absolutely lacking in Caucasian ancestry. But the almost total absence of blood-type B, and of RH negatives, save in cases of known mixture with Whites, persuades me that it is legitimate to segregate the known mixtures from the supposedly pure Indians. Such a segregation has consequently been made.

As shown by Table 1, the Central Nootkans, dwelling on the Pacific shore of Vancouver Island from Hesquiat to Ohiat, are highest in allele frequency for blood-type O of any group tested. The Quilleute and the Makah, also on the Pacific coast, are next in order, closely followed by the Nitanat, or southernmost Nootka, and the groups of Nitinat-Makah, and Quilleute-Makah.

Two of the Salish groups—those from the Gulf of Georgia and from Tulalip—and also the Tsimshian and Haida, all have very high allele frequencies for type O.

The Kwakiutl, the Salish at Muckleshoot, the Makah-Klallam, and the resi-

1 L. Ride, *Anthropological Studies amongst North American Indians from British Columbia* (Caducens, vol. 14, no. 3, 1935).

2 R. R. Gates and G. E. Darby, *Blood Groups and Physiognomy of British Columbia Coastal Indians* (Journal, Royal Anthropological Institute, vol. 64, pp. 23-44, 1934), p. 194.

TABLE 1

ABO Frequencies, by Population Groups

	Numbers Typed				*Gene Frequencies*		
	O	A	B	AB	p (a)	q (b)	r (o)
Haida	6	2			.13		.87
Tsimshian	37	12	1		.13	.01	.86
Kwakiutl	21	10			.18		.82
Gulf Salish	36	10	1		.11	.01	.88
Nootka: Indian	267	9			.016		.984
Mixed	48	16			.13		.87
Central	225	9			.02		.98
Nitinat	91	16			.07		.93
Makah-Nitinat	35	6	3		.07	.035	.89
Makah: Indian	100	11	1		.05	.004	.946
Mixed	60	24	3		.15	.02	.83
Makah-Quilleute	33	5			.07		.93
Quilleute	27	2			.04		.96
Makah-Klallam	14	8			.20		.80
Port Madison	56	23	3	4	.15	.03	.82
Tulalip: Indian	68	13	8		.08	.05	.87
Mixed	64	11	9	1	.072	.058	.87
Muckleshoot	57	23		2	.16	.007	.833

dents of Port Madison Reservation have the lowest percentages of the gene for O among any of the groups tested. The allele frequency for blood-type A varies, of course, in inverse proportion, since B is almost absent.

As with other American Indians, blood-type M is by far the most common in the MN series. But there is considerable intertribal variation. The allele for N is extremely rare among Quilleute and Haida, and remains at less than ten percent among Nitinat, Tulalip, Muckleshoot, and Tsimshian.

The Kwakiutl, the Gulf of Georgia Salish, and the people of the Port Madison Reservation are the only groups with an allele frequency for N of more than twenty percent. Among the groups which appear to be relatively free of Caucasian intermixture, only the Kwakiutl have any considerable percentage of the allele

TABLE 2

MN Frequencies, by Population Groups

	Numbers Typed			*Gene Frequencies*	
	M	MN	N	m	n
Haida	7	1		.94	.06
Tsimshian	41	9		.91	.09
Kwakiutl	21	7	3	.79	.21
Gulf Salish	26	16	5	.72	.28
Nootka: Indian	213	33	30	.83	.17
Mixed	50	13	1	.88	.12
Central	182	31	21	.84	.16
Nitinat	86	13	8	.87	.13
Makah-Nitinat	12	7		.82	.18
Makah: Indian	63	21	3	.85	.15
Mixed	38	8	1	.89	.11
Makah-Quilleute	16	2	1	.89	.11
Quilleute	24	1	1	.94	.06
Makah-Klallam	3	2		.80	.20
Port Madison	52	18	14	.73	.27
Tulalip: Indian	73	13	1	.92	.08
Mixed	69	8	6	.88	.12
Muckleshoot	53	9	1	.91	.09

for A and the allele for N. Table 2 shows the distribution of the MN allele series among the various populations.

The very small proportions of recessives in the RH allele system, among the Northwest Coast Indians, is most clearly and reliably shown in the case of the alleles D-d. Only among the Makah do we find any significant number of individuals exhibiting the recessive characteristic. An examination of Table 3 suggests that in this group the extent and the antiquity of Caucasian intermixture is greater than had been acknowledged, and also that the particular Caucasians involved may have included an unusually high proportion of individuals carrying the recessive allele d. Those of mixed ancestry among the other population groups, on the contrary, appear to have even less of this recessive than might be expected.

At the Tulalip Reservation, on Puget Sound, there is evidence (presented in

TABLE 3

RH Frequencies (D and d), by Population Groups

	Numbers Typed	
	dd	DD/Dd
Haida		8
Tsimshian	1	47
Kwakiutl		31
Gulf Salish		47
Nootka: Indian		275
Mixed	1	62
Central		229
Nitinat	1	106
Makah-Nitinat	11	33
Makah: Indian	11	100
Mixed	24	58
Makah-Quilleute	9	26
Quilleute	1	25
Makah-Klallam	4	16
Port Madison	1	23
Tulalip: Indian		87
Mixed	1	82

Table 4), that blood-type B was present at least four generations ago, and it has retained almost as high a frequency as A (over five percent of the gene-pool) ever since, in both mixed and supposedly pure Indian families, as comparison between generations shows.

Since the nearest aboriginal American population numbering any B's is that of the Aleutian Islands, one can be reasonably sure that the presence of B among the Tulalip is due to the early contact with non-Indians, presumably Europeans. Since, however, the present population of Tulalip is a rather recent assemblage of diverse tribal origin, it is not possible even to guess where or just when the earliest miscegenation occurred. One might suggest that the allele for type A may also have been introduced among the natives of the Northwest Coast from some non-Indian source, and this suggestion is reinforced by the greater proportion of A's found in areas more readily accessible to settlers, although not, as a rule, those

earlier visited by European explorers. On the other hand, the same areas are those closer to a possible aboriginal source for a type A, to wit, the Blackfoot and Blood of the Rocky Mountain area. These tribes, it will be recalled, have a higher proportion of the allele for A than has any European group.[3] As yet, no data concerning blood-types in eastern Washington or the interior of British Columbia —the areas between the Coast Salish and the Blackfoot—are available for living Indians, but skeletal remains from the valley of the upper Columbia have been typed, and these reveal a population with allele frequencies of seventy percent O and 30 percent A—about midway between Coast Salish and Blackfoot.[4] Quite possibly then, blood-type A has reached the Pacific coast Indians via the Columbia valley among other routes.

At this point it is perhaps appropriate to recall that the Blackfoot, Ute, and other tribes of the Rocky Mountains are also characterized by the possession of a higher proportion of the allele for N than are most of the coastal peoples.[5] The geographical distribution of differences in allele frequencies among the latter suggest a flow of the allele for N towards the coast from the interior of British Columbia—possibly down the Fraser River, possibly farther north through Kwakiutl territory—but, at any rate, farther north than the route of the Columbia. It is clear that data need to be collected from Sahaptin and Athapascan tribes before we can settle this point.

So much for the distribution of blood-types among the Northwest Coast Indians in general. Next in order is a consideration of the role of habitual mating patterns among humans in the flow and distribution of genes, as exemplified in this particular area. We humans are not fruitflies or guinea pigs, and, although some individuals are less discriminating than others in sexual matters, culturally determined mating habits govern us all, Indians and Europeans alike. There are always rules concerning exogamy and endogamy, for instance. Perhaps with respect especially to publicly sanctioned unions, the factor of prestige often assumes great importance: this is certainly true among Northwest Coast Indians.

Genealogies were collected as thoroughly as possible in connection with the field work of this survey: these include information concerning casual as well as socially sanctioned unions. Thus it has been possible to compare the culturally correct with the actually practised matings, and to study the effect of the latter, and perhaps even of the former, upon the gene-flow.

For anyone with social pretensions, marriage outside of one's village has been preferred among Northwest Coast Indians, and we find that it was in fact very

3 W. C. Boyd, *Genetics and the Races of Man* (Boston, 1950), p. 230.
4 R. Heglar, manuscript (M.A. thesis, University of Washington).
5 See Boyd, *op. cit.*, p. 234.

common. Not a single one of the settlements, reservations, or even linguistic groups forms a breeding isolate, or anything like it: perhaps outbreeding has been even more prevalent in recent times, as travel has become easier, but it is traditional in any case. For one tribe, the Klallam, we are fortunate in possessing genealogical records collected by Gunther.[6] During the five generations preceding 1924, out of fifty-seven marriages recorded, only five were contracted between fellow-villagers. Twenty-nine were locally exogamous yet within the tribal bounds, and twenty-three marriages were with some non-Klallam individual. Wives from Vancouver Island were especially desirable. As long ago as 1880, more than forty percent of the Klallam knew of non-Klallam ancestry, so that we can be sure the custom of intertribal marriage is by no means new.

Marriage to remote cousins has been felt to be highly appropriate among the Nootka,[7] but our knowledge of their genealogies is not yet sufficient to show the extent to which it was really prevalent. Place of residence after marriage appears to have been strongly affected by the desire for prosperity and prestige, rather than by the official tradition favoring patrilocal residence, but many couples did not remain permanently in one village.[8] A drift towards the coast and west along the Straits of Juan de Fuca seems to be indicated, perhaps in part due to the search for economic advantage. Attitudes toward marriage or mating with Caucasians varied with time and tribe, and we have not yet been able to formulate any consistent pattern.

Among 234 Central Nootka, 107 have parents or grandparents from another Nootkan village. Among 199 individuals from Neah Bay, 87 knew of Caucasian ancestry; 44 claim descent, in part, from the Nitinat of Vancouver Island, 38 are part Quilleute, and 22 are part Klallam. These groups overlap to a considerable extent: those who acknowledge one foreign ancestor are likely to know of two or more. And the same is true of the Tulalip, Muckleshoot, and Port Madison Reservation people, to at least the same degree. Yakima and even Assiniboin Indians have married into the Tulalip group, the latter incidentally, contributing one source of blood-type A to the local gene-pool. Additional factors for RH negative and probably one of the sources for blood-type B among the Makah clearly come from a German, whose son and granddaughter are at the same time of type B and RH negative.

These are simply examples of the way in which blood-types rare in this area

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6 E. Gunther, *Klallam Ethnography* (University of Washington Publications in Anthropology, vol. 1, no. 5, 1927), pp. 242-243.

7 Philip Drucker, *The Northern and Central Nootkan Tribes* (Bulletin, Bureau of American Ethnology, no. 144, 1951), p. 274.

8 *Idem*, p. 278.

have been introduced and distributed. Very often, however, the operation of random genetic drift must have extinguished such rare genes, or increased their frequency to unexpected degree. We are, after all, working with very small populations, which are especially subject to the vagaries of chance. At Tulalip again, for instance, we have one family in which a mother of type B (but obviously heterozygous) has four children, all but one of type O; and at the other extreme a more prolific mother, of type A, who produced 8 children, 5 of her own blood-type. It is because of such chances as this, of course, that we find at Tulalip such variations, between generations, of the relative proportions of the blood-types as are shown in Table 4.

TABLE 4

ABO and MN Frequencies, by Generations, at Tulalip*

Generation	A		B		AB		O	
	fr.	%	fr.	%	fr.	%	fr.	%
1st (18)	(2)	11.1	(2)	11.1	(1)	5.6	(13)	72.2
2nd (21)	(2)	9.5	(4)	19.1	(0)	0	(15)	71.4
3rd (27)	(4)	14.8	(4)	14.8	(0)	0	(19)	70.4
4th (99)	(12)	12.1	(7)	7.1	(0)	0	(80)	80.8

Generation	M		N		MN	
	fr.	%	fr.	%	fr.	%
1st (18)	(14)	78.0	(0)	0	(4)	22.0
2nd (20)	(15)	75.0	(3)	15.0	(2)	10.0
3rd (27)	(22)	81.5	(0)	0	(5)	18.5
4th (97)	(86)	89	(3)	3.0	(8)	8.0

* It was impossible to assign a few of the Tulalip to any of these generations.

Such wide divergences from statistical expectations are always to be found in small samples: exact percentages and minor differences between adjacent populations mean less under such circumstances. And yet, with population growth, they may assume a statistical importance having little or nothing to do with racial reality, since they could so often, and so easily, be interpreted as meaning greater ancestral difference or similarity between two groups than is really the case.

In the distribution of the MN blood-types, however, there are some oddities which cannot cannot be so readily explained by pointing to the small size of the

series. In the first place, the known (not to mention the suspected) extent of mixture with Europeans ought to have raised the percentage of N to a rather greater degree than it appears to have done. Among Nootka and Makah, the percent of N is actually less among mixed than among supposedly pure Indians, as shown on Table 2. These facts suggest that the degree of mixture is less than had been suspected; and also that we might well seek for an Indian, rather than a Caucasian source to account for the presence of the allele for N among the Nootka and Makah. In the second place, among the Central Nootkans (our largest single group) there is considerable excess of individuals testing N rather than MN, considering the allele frequencies known to exist. This excess becomes even more pronounced among the Nootkans who are of blood-type O, and would appear to be largely, but not entirely, concentrated among the villagers who live along the Alberni Canal. This waterway, which almost bisects Vancouver Island, has long been used as a major route for travel, both by Indians and Caucasians, in passing between Nootkan and Salish territory. The inhabitants of such an area might be expected to receive enough new genetic material in each generation to prevent the establishment of a state of genetic equilibrium. Constant accretion of the allele for N from Caucasian sources might seem a reasonable explanation, were it not that the Nootkans of known Caucasian ancestry show no excess of N in contrast to MN; and that the allele frequency of A is exceptionally low in the area while B, on the other hand, is entirely absent. These facts impel us to seek some source for the allele for N among the Nootkans among the group carrying only a small amount of A.

It will be recalled that local endogamy is not the rule among Northwest Coast Indians, who tend, rather, to seek socially or economically advantageous marriages, even across linguistic barriers. It is known that certain hereditary songs, dances, and other social privileges deriving from the Kwakiutl have been spreading southward for many generations. A certain Chief Maquinna, for instance, resident just beyond the area covered by the present survey at Moachat, claimed Kwakiutl ancestry, together with certain rights pertaining therof, and families throughout southern Nootka territory now claim descent from him. There appears also to be a tendency for at least the northernmost Salish to acquire more and more traits of Kwakiutl culture, due, I suppose, to their proximity and to the search for prestige.

Since social privilege is tied up so closely with claimed ancestry, such a spread of cultural traits is likely to imply some degree of intermarriage, with the accompanying gene-flow. Many individuals laying claim to privileges ultimately deriving from the Kwakiutl may be found among the Nootka and Salish alike. And it must be remembered that the Gulf of Georgia Salish are in a most convenient

geographical position to interbreed with those Nootkans who dwell along the shores of the Alberni Canal.

Now the Gulf of Georgia Salish are a little more likely to be of blood-type A than are the Nootkans, but they possess a far greater proportion of the allele for N, as reference to Tables 1 and 2 will show. To a certain extent this is true of the Kwakiutl as well. Since these two characteristics are not genetically linked, however, statistical chances of an individual Salish ancestor transmitting both are only 3 out of 100, as against 25 in 100 that he would transmit the allele for N alone. Nootkans seeking mates who will bring them prestige, may find, without being aware of it, mates who also bring blood-type N. And, if this process is continued in each generation, the lack of genetic equilibrium may well persist.

We do not, of course, know whether the excess of N and deficiency of MN among the Nootkans is really due to such a cause as that outlined above. It appears to fit the known facts but the known facts are few. A much more thorough check upon the genealogies of the individuals involved needs to be undertaken in order to confirm or explode such an hypothesis.

It is, however, by work of this sort that one may hope to uncover, in due time, some of the cultural forces which have, as a secondary, unanticipated, result led to genetic differentiation between various groups of men.

Blood-types are useful to us in such studies because they are purely genetic in origin and of no socially selective value in themselves. They serve as markers rather than as anything else. No one can for a moment suppose that one or another blood-type increases the attraction of male or female to one another, as some other inherited physical characteristics, say red hair or blue eyes, are supopsed to do. Yet the stranger, settling with any tribe, brings with him not only new cultural items but also new genes, and both will be contributed to later generations.

Bearing in mind the unusual importance of each individual within a small breeding population, it should nevertheless be possible to reach some conclusions with respect to prehistoric population movements by means of larger scale genetic analysis. The general predominance of blood-type O in the ABO series and of M in the MN series among all of the Northwest Coast Indians are strong indications of the lack of recent genetic contacts across the Pacific or even with Polynesia. In northeastern Asia, Japan, and China, blood-type B is exceptionally common, far more so than in western Europe. Yet it is almost totally absent among the Northwest Coast Indians. It seems to me that any but the most casual and sporadic contacts would have introduced more B, and more N, than we find. The allele for N seems clearly to have been derived from the interior of British Columbia. Very probably much, or even most, of the allele for A has been brought to the coast by contact between the Sahaptin and the Salish tribes.

It has recently been proposed that Indians from the Northwest Coast migrated to Hawaii and perhaps even to New Zealand.[9] The evidence of blood-types contradicts this notion. In Hawaii, the allele for blood-group A has a frequency of thirty-eight percent, which is far in excess of the figure for any of the groups on or near the coast of Washington or British Columbia. The Maori of New Zealand have, indeed, a frequency of A which is less than that of native Hawiians, but is still considerably greater than that of any Northwest Coast Indians. It would, however, seem rather unlikely that the postulated voyages from the Northwest Coast to Hawaii took place via New Zealand, which is farther away, and that on both legs of the voyages, there was a drastically higher mortality among individuals of blood-type O.

Such evidence as we have so far collected from a geographically well-distributed and rather large sample would indicate, on the contrary, that the allele frequencies both of A and N were at one time even less than now, and that they have both been increasing in historic and late prehistoric times, having been introduced from the area of the Rocky Mountains. But it is clear that what has brought about the increase is not greater biological survival value inherent in blood-type A or blood-type N. The movement of groups of people, seeking better subsistence, and perhaps with better techniques for exploiting the natural resources, has been a contributing factor in aboriginal as well as post-White contact times. The migration of individuals, not only for these reasons but also in search of higher social position, may well have been another contributing factor.

One has, I think, only to consider the post-Columbian spread of European peoples to grasp the potential import of these cultural factors for the evolution of racial traits in man. Clearly our racial traits of pallid skin, dental pathology, and constricted chests are in no way biologically superior to the racial traits of American Indians. Yet cultural forces have led to an enormous expansion of our population relative to theirs. Human culture is, after all, a very vital part of the human environment. Our subsistence techniques, our social organization, our breeding habits are all derived therefrom; and all these, in turn, affect the survival rate of any given population, Northwest Coast Indian as well as any other.

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9 Thor Heyerdahl, *American Indians in the Pacific* (Chicago, 1953).

YAKUDOSHI, A JAPANESE COMPLEX OF SUPERNATURALISTIC BELIEFS[1]

EDWARD NORBECK

THIS PAPER is written to describe a complex of Japanese culture which, although important to most of the Japanese people of today, has hardly received mention in Western writings, and to outline its probable course of development. A further objective is to describe the relationships of this complex of behavior to other aggregations of belief and practice with which it has become so intimately enmeshed that no adequate understanding of one may be made without study of the others. Data upon which this paper are based are drawn from the author's field research in Japan and, in larger part, from published accounts by Japanese scholars.

Yakudoshi, "calamitous years," means certain years of the human life span which are considered inherently dangerous, years when man is liable to great misfortune. Associated with beliefs in *yakudoshi* is an abundant variety of practices to avoid or weaken the dangers of the calamitous years. The history of *yakudoshi* customs is only poorly known. They appear to be in considerable part derived from China, becoming altered in Japan and intermingled with older, non-Chinese beliefs and practices.

Among the many items of knowledge, belief, arts, and handicrafts which reached Japan from China beginning in the early centuries of the Christian era was the Chinese lunar-solar calendar, adopted in Japan by the seventh century AD. Closely associated with and probably accompanying the calendar in time of adoption in Japan came a vast body of astrological lore, which included beliefs concerning the auspiciousness or inauspiciousness of the cyclical year of one's birth and of days of the month. These beliefs survive in Japan in varying degree today. The year of one's birth is thought to affect his future life; certain years are lucky and others unlucky. Various days of the month are traditionally inauspicious for any venture of importance. Other days are felicitous or infelicitous for specific events, good or bad for marriage, for commencing the erection of a new dwelling, for building a clay or brick stove, for travelling, or for holding funerals. When erecting a building, one must orient it auspiciously, following ancient rules of geomancy based upon the Chinese zodiac. If members of a household experi-

1 The author is indebted to Dr Takao Sofue for reading this manuscript and offering helpful suggestions and corrections.

ence a series of misfortunes, it may be considered necessary to remodel and thus reorient the dwelling.[2]

Although weakening, astrological beliefs remain strong enough so that despite official adoption of the Gregorian calendar in 1872 the Chinese lunar-solar calendar survives today strongly in rural areas and is for most traditional events the usual time reference. Public schools and other modern innovations operate by the Gregorian calendar, so that it is sometimes necessary in rural Japan to indicate the calendrical reckoning by the prefixes "old" (Chinese calendar) and "new" (Gregorian calendar) before dates. Commercially printed calendar-almanacs *(koyomi)* based upon the Chinese calendar and containing horoscopes and much astrological information on lucky and unlucky days may be purchased in any village, town, or city of Japan at prices varying from a few cents upward. The *koyomi* also contain information useful to farmers and fishermen, and not otherwise readily available, on the position of the sun and moon and the hours of high and low tides. Continued reliance by country people upon the Chinese calendar does not, however, appear to rest solely upon this useful but mundane information but rather it depends in large part upon the fund of supernaturalistic lore which the *koyomi* contain. Far too detailed for the average person to remember, but important in daily life, the astrological knowledge is available to everyone through the cheap and easily procurable *koyomi*.

The beliefs and practices outlined above, although strong in much of rural Japan, are generally weak or absent in urban areas. Young people, both urban and rural, are likely to dismiss the beliefs as the baseless superstitions of their elders. Of the numerous astrologically-related customs of Japan's past, perhaps only those associated with *yakudoshi* may commonly be found today in both rural and urban Japan. Among the believers in *yakudoshi* may be found sophisticated and Westernized urban residents, who scoff at many other ancient beliefs surviving in rural communities or who simply relegate such beliefs to the untutored past. As a case at point we may cite *Sasameyuki*, "Delicate Snow,"[3] a contemporary novel of high literary repute dealing with the lives and problems of modern, wealthy, and sophisticated Japanese, in which *yakudoshi* appears recurrently as one of the major themes.

Associated with, reinforcing, and in some instances probably giving rise to the beliefs and practices of *yakudoshi* are two other distinguishable complexes of behavior, both of which appear to be old enough in Japan to be called indigenous; that is, they were established before the influx of Chinese culture traits. One of these complexes is the beliefs and practices of pollution *(kegare)* connected with

2 Norbeck, 1954, pp. 124-126, 137-139.
3 Tanizaki, 1949.

any flowing of blood, and associated taboos *(imi)*. We know from early Japanese historical accounts that *kegare-imi* customs are ancient in Japan, probably at least two millenia old. They remain in somewhat altered and weakened form in much of rural Japan today, where pollution is now usually thought to result only from death, menstruation, and childbirth. Ritual cleanliness through the removal of pollution also remains as the core of most Shinto shrine and priestly ritual.[4]

The second complex associated with *yakudoshi* is customs revolving about persons of the same age, especially as they apply to the crises of life, practices of age-grading, and customs concerning the division of labor by age. Although their history is only very imperfectly known, same-age customs *(dōrei shūzoku)* appear also to be of great antiquity. Beliefs of affinity by age appear once to have existed widely in at least western Japan, their core being a belief of sympathy by age: what happened to one individual was likely to happen to all individuals of the same age in the community. Formalized, named associations, graded by age, appear also to have been common and the beliefs of *same-ageness* might be extended to all persons within one's age grade, thus covering a considerable span of years. Same-age and age-grading customs remain in Japan today in a few rural communities in the form of systems of formalized associations embracing all persons and, more commonly, in certain customs regarding the illness, death, and *yakudoshi* of age-mates, and the allotment of community labor by age. Former customs related to the age of individuals appear to be reflected in all of Japan in various derivative forms such as the prevalent youth's and women's associations and in marked distinctions of status by age.[5]

Yakudoshi, kegare-imi, and *dōrei shūzoku* customs have become intimately intertwined and interdependent, although it appears that *yakudoshi* practices, viewed as apart from the other two complexes, are the latest of the three to become established in Japan. To bring out what appear to be the relationships between the complexes, a description of them, centered upon *yakudoshi,* follows.

Although local variations are numerous, the twenty-fifth, forty-second, and sixty-first years of life are generally considered the *yakudoshi* for men, and the nineteenth, thirty-third, and (less frequently) the thirty-seventh years the *yakudoshi* for women. Fairly commonly, the thirteenth, seventy-seventh, and eighty-eighth years of life may also be considered *yakudoshi* for both males and (less frequently) females. Other years of life locally regarded as *yakudoshi* cover a wide range and include several ages of childhood and adolescence. One investigator[6] finds examples applying to either males or females or to both sexes at these

4 See Norbeck, 1952.
5 See Norbeck, 1953.
6 Kurata, 1943, no. 1, p. 6.

ages: 2, 5, 6, 7, 9, 13, 15, 17, 18, 19, 23, 25, 29, 33, 37, 39, 41, 42, 55, 61, 67, 77, and 88. Distinction of *yakudoshi* by sex is not always consistent so that some *yakudoshi* may apply to males in one community and to females in another community, or they may apply to both sexes. Computation of age for *yakudoshi* generally follows the traditional practice whereby a person is one year of age at birth and becomes a year older at the beginning of each new calendar year.

The years of life considered *yakudoshi* throughout the Ryukyu Islands for both men and women are 13, 25, 37, 49, 61, 73, and 85.[7] Occasionally, the eighty-eighth year and, rarely, the seventh year are also *yakudoshi*. The influence of the Chinese calendar is here clearly apparent. The Chinese calendar, running a full cycle of 60 years, is composed of 10 named "trunks" and 12 named "twigs" which permutate to form the full cycle. Reference to the calendrical year is ordinarily by the "twigs" rather than the "trunks." Thus, an individual born in the Year of the Dragon (a twig name) will at intervals of twelve years again be in the Year of the Dragon, qualified by a different trunk name. Sixty-one years after birth he will again be in the Year of the Dragon with the same trunk name as the year of his birth. Old customs which have become altered in or have disappeared from the islands of Japan proper appear still to be preserved in the Ryukyu Islands in forms closely resembling those of the ancient past. Ryukyu customs may here represent those which formerly existed in Japan, and the Ryukyu Islands themselves may well have served as a channel of diffusion of culture traits from the Asiatic mainland. Of the seven *yakudoshi* ordinarily recognized in the Ryukyu Islands, four are also common or fairly common in Japan. The most important of the Ryukyu *yakudoshi* is the forty-ninth year. It is reported to be observed virtually everywhere in the Ryukyus by both sexes even though other *yakudoshi* may now be given little or no attention, but it is curiously rare in Japan.[8]

Replacing the forty-ninth year of the Ryukyu Islands, the thirty-third year of life for women and the forty-second for men are the most important *yakudoshi* in Japan. These years of life, called *daiyakudoshi*, "great-calamity years," are regarded as very dangerous and critical years when special precautions to avoid calamity must be taken. The sixty-first year of life is also frequently regarded as one of the most dangerous *yakudoshi*, but it is in some communities regarded as a felicitous rather than a calamitous year.

What happens to the individual during his *yakudoshi* is caused and controlled by the supernatural world. Active means taken to avoid misfortune during these years are, of course, also supernatural, ranging from prayer to numerous magical formulae. Ritual observances are numerous and varied. Of the many names ap-

7 *Ibid.*; Yanagita, 1951, pp. 629-630.
8 Yanagita, 1951, p. 629.

plied to these ceremonies, *toshi-iwai*, "year festivities," appears to be the most common.

Toshi-iwai are ordinarily observed at the beginning and frequently at the end of a *yakudoshi*, usually at New Year's, and they may also be held at locally fixed times before the *yakudoshi* begins and after it has ended. Additional ritual may be performed during the year of *yakudoshi*. Common times for ceremonial correspond with traditional changes of the seasons: the last day of the old year, the first day of the new year, the winter solstice, the first day of the second month, and the first day of spring or autumn. All of these days were formerly and are to some extent today also occasions for other festivities.

The custom is prevalent of inviting relatives, and frequently also neighborhood friends, to a banquet which serves to dispel the danger of misfortune. *Yakudoshi* feasts are reported sometimes to be on grander scale than wedding feasts, ordinarily the most elaborate affairs of one's life span.[9] Commonly, there are also appeals to supernatural beings consisting of shrine or temple visits and prayers which, according to local custom, may be made only by the person in *yakudoshi*, only by him and his relatives, or by all jointly. The supernatural beings to whom appeal is made may be Shinto, Buddhist, or both. Frequently the shrine (in English translation, the terms "shrine" and "temple" are conventionally used to signify Shinto and Buddhist edifices, respectively) of the local tutelary god is visited, and prayers and offerings, commonly of rice cakes and rice wine, are made. Among the Buddhist deities to whom appeals are commonly made are Kwannon, the "Goddess of Mercy," and Jizō, who is generally regarded as a patron saint of children. A conventional circuit of neighborhood shrines and temples may be visited, and long and expensive pilgrimages to nationally famous shrines, such as the great shrine at Ise, are sometimes made. The climbing of mountain peaks by persons entering *yakudoshi* is also observed in some communities; in most instances this involves prayer and offerings to the *yama-no-kami*, the god of the mountain. A common practice is to wear rough straw sandals while climbing the mountain and leave them behind before returning.

Certain elements or combination of elements of *yakudoshi* ritual are known by various similar names which denote their purpose as rites of exorcism, such as *yaku-otoshi*, *yaku-harai*, and *yaku-yoke*, "losing the danger," "exorcising the danger," and "averting the danger." These practices commonly include mechanical procedures, many of which are associated not solely with *yakudoshi* but are familiar devices used to change one's luck after any misfortune or after a run of ill luck.

A common formula is to take some object which has been in association with

9 Kurata, 1943, no. 1, p. 9; Segawa, 1943b, p. 14; Segawa, 1951, p. 44.

the person in *yakudoshi* and leave it at a crossroads or at any spot which many people will pass, thus dissipating the *yaku*. Objects commonly used are combs, needles, and hair ornaments (by women) and work tools, writing brushes, solid ink, and loin cloths (by men).[10] Coins, one for each year of life, may be scattered or left at crossroads to be picked up by others.

In addition to feasts, many other customs involve the use of food. Rice cakes, sometimes containing a bean for each year of life of the person in *yakudoshi*, and rice wine are offered to the gods, placed at crossroads, or given to relatives and friends, sometimes to the whole community. Rice cakes, first offered to the local tutelary god or other supernatural being and thus sanctified, may be rubbed over the body of the person in *yakudoshi* and then thrown away, hidden, or left at crossroads.[11]

Gifts from relatives, sometimes from friends, to an individual in *yakudoshi* are frequently a part of the ritual and may be a highly important part. Gifts commonly are of food, and there are many local customs regarding the kinds and quantities of food or other gifts. Such customs are reported as the presentation of traditional *yakudoshi* gifts of fire tongs, umbrellas, and boxes used to measure rice, which may later be used in ritual.[12] A woman in *yakudoshi* may receive from the household of her birth articles of clothing which for this occasion bear special names such as *seimei-nagashi obi*, "life-lengthening sash," or *yaku-yoke kimono*, "calamity-averting kimono."[13]

Symbolic means may be taken to make the hazardous year of life pass quickly or to skip the year. Terms in use for this kind of magical ritual may be translated as "year-increasing," "age-correcting," and "year-passing." The name most commonly used is *toshi-gasane*, "year-increasing" or "year-piling-up." Formulae are various but usually include the repetition of ritual behavior which is ordinarily done only once annually: New Year's festivities may be observed twice; instead of the usual single votary shelf *(toshidana)* two may be set up at New Year's, or two *toshi-iwai* may be held.

Multiple techniques to avoid misfortune are usually followed. To cite an example, a free translation of a Japanese report[14] on practices for males in a rural community of Kagawa Prefecture follows.

> On the first day of the sixth month of the year preceding a *yakudoshi* a visit is made to the shrine of the tutelary god, and another visit is made during the year of *yaku* on a lucky day in the first or second month. The visit must be made before mid-

10 Ōmachi, 1951, p. 245; Yanagita, 1951, p. 629.
11 Segawa, 1943a.
12 Segawa, 1943b, pp. 15-16; Yanagita, 1949, p. 197.
13 *Ibid.*
14 Segawa, 1943b, pp. 11-12.

night, and straw sandals with paper thongs must be worn. The thongs of the sandals are cut while at the shrine and the sandals left behind. A graduated tier of rice cakes *(kasane-mochi)* is offered to the tutelary god and later placed at a crossroads, where other people pick up the cakes and eat them. A coin for each year of life is left in the votary box at the shrine. On the return trip, the person in *yakudoshi* wears as footgear wooden clogs, brought along by a friend who accompanies him to the shrine. To return home, a route different from that used in going to the shrine must be followed, and the person in *yakudoshi* must not speak with anyone whom he encounters. Upon reaching his home, the man in *yakudoshi* is welcomed by a woman of high social status (i.e., not a young woman or a servant) of the household, who greets him by saying: "I thought you were forty-two but I hear you are forty-three. Congratulations!" Members of the household then all join in a meal.

Other procedures include the writing of felicitous Chinese ideographs, such as those for "good luck" and "rice," on pieces of paper which may be attached to walls, distributed to relatives, or used as wrappers for rice cakes or money to be left at crossroads or thrown into rivers or the sea. The color red, traditionally lucky, is also used in gifts and gift wrappings, to color rice cakes used in ritual, and in *yakudoshi* clothing. The wearing of red underwear by males in their forty-second year is reported in one area.[15] Talismans are frequently purchased at shrines and temples by the person in *yakudoshi* or by friends and relatives who present the talismans as gifts. Talismans may be kept in the dwelling or worn on the person.

The *daiyakudoshi*, the thirty-third year of life for females and the forty-second year for males (the forty-ninth year for both males and females in the Ryukyus) receive the greatest attention. Long trips and important undertakings are usually avoided during these years because they are likely to end in misfortune. If it is necessary to do anything important during these years, great caution must be exercised and astrological rules concerning auspicious and inauspicious days must be observed scrupulously. Before taking a trip, one must consult the *koyomi* to determine the whereabouts of Konjin or Mawari-Konjin, the deity associated with directions who revolves about the world following a prescribed and regular orbit. Travelling in his direction, always dangerous, is particularly hazardous during a *yakudoshi*.

The danger during the thirty-third and forty-second years is so great that, as reported from numerous rural communities, it radiates beyond the confines of one year of life. The year preceding and the year following the *daiyakudoshi* may also be considered lesser periods of danger. Ritual may thus extend over a period of three years, which are given names translatable as "pre-*yaku*," "main *yaku*" (the thirty-third or forty-second year itself), and "post-*yaku*." The extension of danger

15 Oka, 1943, p. 42.

beyond one calendar year may, less commonly, apply to any *yakudoshi*, as in the community of Takashima, Okayama Prefecture where *yaku* may last two years, beginning six months before and ending six months after the principal year of danger.[16]

The danger of calamity inherent in the great-calamity years frequently extends even to children born during them, who may be called such names as *yakugo*, "*yaku* child," or *onigo* "devil child."[17] In some communities of Japan only a female child born to a woman during her thirty-third year of life or a male child born to a man during his forty-second year are regarded as children of misfortune. A child of sex opposite to that of its parent in *yakudoshi* is in these communities under no evil omen. Twins born during a great-calamity year of one of their parents, especially twins of sex opposite to that of the parent in *yakudoshi*, are particularly ill-fated. Twins, always viewed with alarm and distaste, appear to be feared and disliked for a variety of reasons that have little to do with inconvenience and financial burdens. Multiple births are regarded as unnatural, animal-like and shameful. Part of the traditional dislike for twins seems to be allied to beliefs concerning persons of the same age, a subject to be dealt with more fully later in this paper.

The common procedure to avert calamity for a *yaku*-child is ceremonially to cast it away or to give it out in temporary "adoption."[18] The ceremonial discarding of an ill-starred child usually consists of handing it, by pre-arrangement, to some unrelated person such as the midwife in attendance during childbirth. The transfer most frequently takes place at the entrance to household grounds or on nearby property not owned by the household of the infant concerned. A child may be taken to a bridge and handed to someone standing below; this is usually called "dropping" the child or "throwing away" the child. The ill luck now broken, the child is handed back at once to the member of the household who brought it out and it is returned to its home. In a community in which the author lived the newborn child was said always to be carefully wrapped in warm clothing and the casting away to be done as quickly as possible so that the child would not catch cold.[19]

The child may also be left somewhere, often at a crossroads, where other persons by pre-arrangement "pick the child up" and return it to its parents quickly afterwards. Where this and similar customs obtain, the child may be called *hiroi-go*, "picked-up child," or "found-child," or *oya-tori-go*, "parent-taking child," and the persons who temporarily take the child may be called *hiroi-oya*,

16 Norbeck, 1954, p. 186.
17 Segawa, 1943c.
18 *Ibid.*
19 Norbeck, 1954, p. 186.

"picking-up parents" or "found parents," or by other terms which may be translated as "temporary parents."[20]

Calamity for the *yaku*-child may be averted by name-changing, a practice also used by other persons who have experienced a period of misfortune. Under circumstances not connected with *yakudoshi* and applying to persons other than newborn and unnamed infants, the usual practice is to alter the familiar or given name. Since today changes of name may not legally be made without court action, it is customary simply to adopt one of the (usually) several alternate readings of the ideographs used to write one's given name. Thus, Masaichi may become Seiichi without any change in the village, school, or other official written records. For a *yaku* infant, who is as yet unnamed (naming is usually done on the seventh day after birth), the procedure is to depart from standard practice by giving the child a different surname; that is, a name other than that of the patrilineal lineage.[21]

It must be noted that beliefs and practices which oppose those here described may also be found. In a small number of communities, certain of the years which are ordinarily *yakudoshi* may be regarded as lucky years.[22] The latter beliefs appear to apply chiefly to the sixty-first year, the traditional year of retirement from active and usual labor, and the seventy-seventh and eighty-eighth years. A child born during the *yakudoshi* of one of its parents is occasionally looked upon as a child of good fortune, or as a child of inherently unusual talents, intelligence, or fortune, either good or bad. In any case, a *yakudoshi* is a year in which something unusual is likely to occur.[23]

Certain of the practices associated with *yakudoshi* are intimately related to and appear to be in part derived from customs connected with pollution-taboo and age status, two complexes which are themselves intertwined.

According to traditional belief and practice, pollution from menstruation, childbirth, and death was incurred for fixed periods of time by the persons directly concerned and, varying with local custom, by a small or large number of prescribed relatives. Pollution from death might apply to a whole community for a short period of time. Pollution was dangerous and contagious; it might be extended to others simply by proximity, even through being seen by others. Important among the numerous rites observed to safeguard the polluted individual and, especially, to avoid extending pollution to others, were various taboos which included the isolation of polluted persons. The polluted also avoided contact with Shinto supernatural beings: none of the customary prayers and offerings might be made, and a woman suffering from childbirth pollution might not step into the presence of

20 Segawa, 1943c.
21 *Idem*, pp. 18-20.
22 Ōmachi, 1951, p. 245; Norbeck, 1954, p. 187.
23 Segawa, 1943c, pp. 19-20.

the sun (the Sun Goddess) without covering her head. When the period of pollution was ended, it was customary to take a meal with relatives, to perform purifying ritual including the sprinkling of salt on the person and about the dwelling, and to build a new fire.

The belief that pollution, especially from death, was most easily extended to persons of the same age appears formerly to have been widely held in western Japan, especially Kyushu. Ideas of affinity by age are still fairly common in rural communities of this area of Japan.[24] Unfortunate occurrences in the life of one individual are thought to be especially prone to spread or to recur among age-mates in the community. Affinity by age was often explicitly viewed as a contest for survival between age-mates, as expressed by the term *kachimake*, "win or lose," used with reference to persons of the same age when misfortune struck one of them. When a person died, others of the community of the same age were likely to be "drawn" to death by their age-mate. Techniques for avoiding the extension of calamities to age-mates were various and most commonly included avoidance of the person who had suffered misfortune. Sometimes avoidance took the form of symbolically preventing news of the death of an individual, especially a child, from reaching persons of the same age by placing beans, rice cakes, or cooking pans in or against the ears for a moment.[25] The most common practice was physical avoidance of the unfortunate age-mate: one did not attend funerals of persons of the same age and even wedding ceremonies of age-mates might be avoided. In the many communities where formal age-graded associations existed, avoidance at times of calamity might extend to anyone of one's association, thus applying to persons of a range of ages.

Yakudoshi were—and still are today in some rural communities—periods of careful mutual avoidance by age-mates. One did not attend the *yakudoshi* rites of even the most intimate of his age-mates and, commonly, exchange of the customary *yakudoshi* gifts was avoided. The death of a person in *yakudoshi* entailed the strictest avoidance and painstaking ritual by age-mates. (As noted for other *yakudoshi* practices, there are also exceptions in same-age customs. In a few communities it is required that age-mates participate in all ritual of importance to each other.[26])

Of the various theories and speculations presented by Japanese scholars with regard to the development of *yakudoshi* customs and their relationship to the other two complexes in question, those which appear to the author the most reasonable will be presented here.

24 Norbeck, 1953; Segawa, 1943b, 1947.
25 Ōtō, 1947.
26 Kurata, 1943, no. 1, p. 8.

It appears that at the time the beliefs concerning the 12-year calendrical cycle reached Japan from China the periods of termination of one cycle and the beginning of another were not regarded as especially dangerous, although they were accorded attention as markers of some astrological importance in the life span of the individual. How, then, did the idea of danger and the great variety of techniques to avoid danger develop, and how did the the thirty-third and forty-second years of life come to be regarded as *yakudoshi* and the most hazardous of the *yakudoshi?* Interpretations offered by Japanese scholars rest largely upon a partial identification of *yakudoshi* customs with the seemingly much older customs of same-ageness, age-grading, division of labor by age or age-grade, and ceremonial pollution.

A similarity between the conceptions of danger from pollution and danger during *yakudoshi* has been noted by Japanese scholars.[27] The term *imi,* ordinarily used to mean taboos associated with ritual pollution, is sometimes also locally applied to *yakudoshi* practices. The terms *imi-make,* "to be defeated by *imi,*" and *yaku-make,* "to be defeated by *yaku,*" seem to have much in common.[28] A number of practices observed during pollution and during *yakudoshi* are similar or identical. As during periods of pollution, isolation and avoidance are common as a part of *yakudoshi* ritual, but it is, of course, economically impossible to be isolated from other persons for intervals of one to three years several times during one's life span. *Yakudoshi* isolation and avoidance of other persons are limited to the periods of ritual observance, when the person in *yaku* commonly isolates himself at a shrine on the conventional days of ritual for several hours or a full day at a time and avoids contact with others in travelling to and from the shrine.[29] *Yakudoshi* feasts, excepting those at the end of a *yakudoshi,* are reported frequently to be held away from the home of the person in *yaku.*[30] The partaking of food with friends and relatives after the period of isolation or taboo is also cited as a common feature, marking the end of a period of danger-pollution.[31] The theory is also advanced that many *yakudoshi* rites, like purification rites, are for the protection of others.[32] It must be noted, however, that the avoidance of Shinto deities as practiced during pollution does not apply to persons under the danger of *yakudoshi;* instead, these supernatural beings are appealed to for aid.

Age-grading practices appear once to have been closely associated with the biological crises of life, which, as periods of change and presumably of mystery,

27 Segawa, 1943c.
28 Segawa, 1951, p. 44.
29 Segawa, 1943a.
30 Kurata, 1943, p. 8.
31 Segawa, 1943a, pp. 13-14; 1943b, p. 14.
32 Segawa, 1943a, p. 15.

were given ritual attention. Initiation rites admitting one to an age association were also rites of passage. Initiation rites into young men's and young women's associations even as they exist today in remote rural communities appear clearly to be also puberty rites. The years of life between crises represented the range of formal, age-graded associations, which were closely associated with the division of communal labor.[33] Although few data on this subject are available, a partial correlation may be noted between the age-limits of age-graded associations of males of the past (still existing in some rural communities) and the years regarded as *yakudoshi*.[34] The age of seven (the seventh year of life) was sometimes the lower age limit of age-graded associations composed of children. A second age association of young people frequently embraced individuals from thirteen-seventeen years to an upper limit of twenty-five. Forty-two often marked the upper age-limit of one of the most important of the age-graded associations, composed of able-bodied, "young" men. Forty-nine seems commonly to have been the upper limit of the young men's associations of the Ryukyu Islands. Sixty-one was formerly and remains today in most of Japan the most common traditional age of retirement from the normal work routine of the able-bodied male, and it also marks the end of a full calendrical cycle. (The actual age at retirement today is usually at least sixty-five; a man retires when he feels that his physical powers are failing, and his wife retires with him.) Age-graded associations for females also existed but, excepting young women's associations, data regarding them are so scant that they will not be considered here.

Age-graded associations were intimately connected with the division of community labor.[35] Different sorts of religious as well as secular community tasks were assigned to each age group. Within the extended family, the fundamental social unit, there was also a division of labor, including religious tasks, by age. Children of seven were commonly assigned certain ritual duties, as were members of the young men's associations. Men of age forty-two frequently were assigned ritual duties, such as the transporting during festivals of portable shrines regarded as containing supernatural beings. Traditionally, at age sixty-one a man devoted himself entirely to religious tasks. Men and, less frequently, women in their sixty-first year of life are commonly throughout Japan today leaders in religious festivals. In certain isolated communities age-graded societies for men and women (separate) composed of persons sixty-one and older are known by names such as *Nembutsu Nakama*, Buddhist Invocation Group, which indicate the ritual tasks assigned to this age group.[36]

33 Norbeck, 1953.
34 Kurata, 1943, no. 1; Norbeck, 1953; Ōmachi, 1942; Yanagita, 1951.
35 Norbeck, 1953; Ōmachi, 1942; Yanagita, 1951.
36 Kurata, 1943, no. 1, pp. 9-10.

Japanese scholars suggest that because of the religious duties imposed upon the individual at these ages of life he was regarded as being in close contact with the supernatural world and thus became a person apart, one in whom supernatural power was vested.[37] The full connotations of this view, never explicitly stated by Japanese scholars, who write for Japanese readers, appear to rest upon the non-Buddhist (and pre-Buddhist) Japanese conception of the supernatural. Ancient and modern Shinto beliefs, as expressed in the term *kami*, appear similar to Oceanic concepts of *mana*. The word *kami* connotes divinity and supernatural power. It may mean supernatural beings of the Shinto realm, and it formerly was applied to objects of nature of unusual form. The term *kami* (in this context now usually regarded as a different word from the "kami" discussed above and today written with a different ideograph) was formerly also applied to the emperor and members of the ruling class, who claimed divine descent. *Kami* is today also used in various other contexts (and written with still another ideograph) to mean high, higher or upper. It is perhaps not unreasonable to think, as do several Japanese scholars,[38] that a person performing religious duties was regarded as being charged with supernatural power and dangerous to himself and others, and the years of life which entailed the performance of the dangerous and onerous religious duties thus came to be disliked and feared. In the Ryukyu Islands, where the most important ritual is performed by females, a woman is eligible to become a priestess at sixty-one. Both the priestess and the edifice in which she performs ritual are considered dangerous to others. Men also may have religious duties after reaching sixty-one, but these rituals are subsidiary to those of the priestesses.[39]

The foregoing does not explain why the years following a *yakudoshi*, when the individual ordinarily continued to perform at least part of the religious duties assumed during this year of life (certainly, after reaching the sixty-first year he continued with religious duties) were not also feared. One must assume here that the only time of danger was when a change was made, or, and this does not always seem to be the case, that special religious duties were commonly assigned only during certain one-year periods of the life span.

Once regarded as periods of danger—the interpretations continue—the *yakudoshi* tended to become identified with periods of ceremonial pollution, the only other regularly recurrent periods of one's life when he was close to the supernatural and supernaturally endangered, and the practices surrounding ceremonial pollution were extended into the sphere of *yakudoshi* beliefs, serving to reinforce them.

37 Segawa, 1943a, pp. 15-16; Yanagita, 1951.

38 Segawa, 1943a; Kurata, 1943; Yanagita, 1951.

39 W. W. Burd, personal communication, referring particularly to Miyako and Yaeyama Islands.

We may also mention that recourse to homonymy in words is sometimes used in interpretation of the development of *yakudoshi* beliefs. It is pointed out that the phonetic combination "yaku" (written with an ideograph different from that of the *yaku* meaning "calamity") is also a common term meaning "responsibility," "labor," or "tasks." The expression *yakuwari* (*wari*, "division") is the usual colloquial term for the division of communal labor or the assignment of responsibility for the performance of communal tasks. The word *yakudoshi*, it is suggested, might more appropriately be written with ideographs which may be translated literally as "year(s) of responsibility" or "year(s) of labor" instead of "year(s) of calamity."[40] It is perhaps useful to note here that Japanese ideographs were borrowed from China and adapted to the Japanese language and that some of the Chinese readings of ideographs were also incorporated, with phonetic modification, into the Japanese language. Whether the reading "yaku" of the two ideographs in question here represents native words or Chinese-derived words I do not know. The second elements of these two words *(wari* and *doshi)* are native.

A common folk explanation of the belief that the thirty-third and forty-second years of life are dangerous also rests upon homonymy: the ideographs for 33 and 42 may be read—but ordinarily are not so read—as *sanzan* and *shi ni*, which homonymously but not characteristically mean "misery" or "birth difficulty" *(sanzan)* and "to death" *(shi ni)*. This "explanation" appears to be a post hoc rationalization based on Chinese-derived readings of ideographs and, therefore, also contingent upon a knowledge of writing, which common people did not have until recent times.[41]

A synthetic summary of the interpretations of Japanese scholars—in considerable measure reinterpreted by the author—may be made as follows. Certain Chinese astrological beliefs and practices concerning the beginnings of the 12-year calendrical cycles reached Japan at an unknown date of considerable antiquity. At this time the years of the turn of the cycles were regarded as periods of some astrological portent in the life span but they were not considered dangerous. As time passed these time markers became modified in Japan to coincide with the conventionalized years of the crises of life, which had long been given ritual attention and which also served as boundaries for age-graded associations. The danger of the years of the crises of life added to the *mana*-like danger associated with religious duties assigned to persons according to age-status or age-grade led to the belief that these years of life (the *yakudoshi*) were critical periods. By analogy

40 Kurata, 1943, no. 1, p. 8.
41 Yanagita, 1951, p. 630.

the *yakudoshi* beliefs became partially identified with beliefs concerning pollution and taboo, same-ageness, the crises of life and age-grading, and thus many of the practices associated with these latter beliefs became also *yakudoshi* customs. The reinforcement of *yakudoshi* beliefs through identification with the other complexes herein described appears to be a factor in their survival in fairly strong form throughout Japan in the face of a great decline in other astrological beliefs.

Reviewing the foregoing interpretations, one wonders about the prevalence of the belief in the thirty-third year of life as a *yakudoshi*. Unless the thirty-third year once marked the boundary of a female age association or was considered one of the crises of life, this *yakudoshi* appears to differ from the others. It is interesting to note that in Japan today this year of a woman's life *is* commonly regarded as a climacteric, as are also the other common *yakudoshi*. The English translation given in a standard Japanese-English dictionary for the term *daiyakudoshi* is "the grand climacteric," and the several English translations of the word *yakudoshi* include "a climacteric year" and "the first climacteric."[42]

Among the Japanese of today perhaps the most commonly advanced rationalization for the belief in *yakudoshi* is that these years of life are critical for naturalistic reasons—they represent times of physiological change in the human body. The following quotation from a recent "popular" Japanese publication[43] intended for Western readers—one of the rare references to this subject in any Western language—seems to express the views regarding *yakudoshi* of the modern urban resident of Japan:

> The idea of "yakudoshi" originally developed from the fact that those ages mark the times when men and women undergo particular mental and physical changes, and when many of them will experience notable changes in their social position. For instance, in the case of men, 25 would be the time when they reach manhood, and so the time is very important and critical. Then, at 42, they would reach the height of development, and at 60 their decline begins. For women, 19 is the age when they attain womanhood, and at 33 they are at their full bloom.
>
> . . . "Yakudoshi" warns the people that they are at their critical stage, and has saved many persons from falling into unlucky failures.

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POTTERY IN THE EASTERN HIGHLANDS OF NEW GUINEA

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THE EASTERN HIGHLANDS of New Guinea are generally thought to be without pottery, and indeed, its manufacture and distribution are not great. However, it is a cultural item of some importance among the Agarabi and it is traded thence to other areas. In this paper we shall discuss the manufacture, use, and distribution of pottery among the Agarabi-speaking people and its occurrence among neighboring groups (Gadsup, Tairora and Kamano) insofar as there are data (Figure 1). These data were collected during a stay of eight months in the Agarabi community of Ajamoentenu, seven miles northwest of the government station and airstrip at Kainantu, and during subsequent residence in the Tairora community of Haparira, three miles south of Kainantu. This presentation is intended primarily as an historical reference point for future archaeological investigations.

At the present time pottery is manufactured in a number of Agarabi communities, Pomassi I, Pomassi II, Bilimoia (Una), and Anonantu being the centers of its production. Pottery is also made at Unantu, Punano, Abinakenu, and Asipuia (there may be others). At some places, such as Ajamoentenu, a number of individuals know how to make clay jars but do so rarely if at all. It was reported that at Isontenu, Doenakenu, Uminufintenu (Anabantu), Keketuantu, Kainoa, Kainantu, Anona, and Tapo—Agarabi communities nearest Kainantu station or farthest from the clay sources—no individuals know how to make pottery.

The Agarabi believe that knowledge of pottery-making began with them in times when they were already in their present location. There is no recognition on their part of its having come from any other people or regions, such as the Ramu-Markham lowlands. But it is to be noted that Pomassi II, Bilimoia, and Anonantu are on the brink of that great rift valley, which geographically at least, is a broad natural highway to the coast. It seems reasonable to assume, therefore, that future research will indicate ultimate lowland provenience. The following story was collected.

Long ago our ancestors did not have pottery. They roasted sweet potatoes, taro, yam, and other foods in the fire or steamed them in earth ovens and sections of bamboo. One day a woman, named Banenano, dug a hole in the ground. She built a fire inside, heated stones, and put a rat in the hole to cook it. The earth around the hole

became hard. Mani (culture hero) came to her and said, "You can make a saucepan like that." He told her to take a certain kind of clay and throw out the pieces of large stone. Then she was to make strips of the clay and coil them to form the sides of the jar. Then she was to turn the jar upside down and put the bottom on it. After that the outside and inside were to be smoothed with a coconut husk. The jar was then to be dried in the sun and after that put on the fire and cooked. Since that time we have known how to make pottery. Mani gave the knowledge to Banenano at Pomassi II.

FIG. 1. Map of the Eastern Highlands of New Guinea. *a*, native communities (lower case); *b*, Kainantu government station and airstrip (underlined); *c*, linguistic groups (upper case).

(Not all informants knew of this story and some thought that pottery was first made at Bilimoia.)

I did not witness pottery-making at the leading centers, but only at Ajamoentenu, where some inferior local clay was used for demonstration purposes. The process accorded, with minor exceptions, to the various reports which were collected. Pottery-making is a male activity although women may help collect the clay and prepare it for manufacture. The most suitable clay comes from near Lake Evadetton, Pomassi I, Pomassi II, Anonantu, and Bilimoia. The clay, tan to yellow in color, is cleaned to the extent that large particles of foreign matter

are removed. The residue of sand and angular particles serves as an aplastic, none being added purposefully.

Coiling is the process used. A small hole is made in the ground in which a section of banana leaf is laid. No disc of clay is put on the leaf, but the first strip of clay is made immediately and laid down. The strips of clay are thick, one to one and a half inches in diameter; they vary in length so that one may make, in effect, a ring, another a short coil. The walls are built up to the desired height and the interior and exterior then smoothed with a coconut husk. It is at this time that the neck and rim are shaped. The hole left by the initial coil at the base of the jar is filled by spreading the initial coil out to form the base; no piece of clay is added. Yet all verbal reports of pottery-making said that after the walls of the jar were completed, it was turned upside down and the base was put on then. This accords with the process mentioned in the origin story.

Decoration uniformly includes incisions on the lip and bands of incisions or punctates on the lower part of the neck. These are made with ordinary sticks, pointed or blunt, or with bamboo, the latter sometimes being made into a saw-toothed instrument.

After the decoration is completed, the jar is dried in the sun for a period varying from a week to two weeks. (Pottery is made only in the dry season.) Then it is fired in a reducing atmosphere which usually produces colors ranging from tan to dark brown or greyish black, often distributed unevenly over a vessel, a single pot never being of one uniform color. After the jar is completed, it is filled with food which is boiled and then given to the pigs. This may be repeated two or even three times, after which food cooked in the vessel is considered fit for human consumption.

As observed, two basic shapes of pottery are made by the Agarabi. One is a jar with high neck, often slightly everted rim, and with a tendency to a pointed base (Figure 2, a, b). The neck-body juncture is abrupt with no real shoulder. The design is uniformly put on the lower part of the neck and on the flat lip. These jars, represented by all but four at Ajamoentenu, tend to be large. Of twenty which were measured, the ranges (in inches) are:

diameter at mouth	9 to 13
maximum diameter of body	8 to 11
maximum height	12 to 20
height of neck	2½ to 4

The average thickness of ten pottery fragments measured was five-eighths inch.

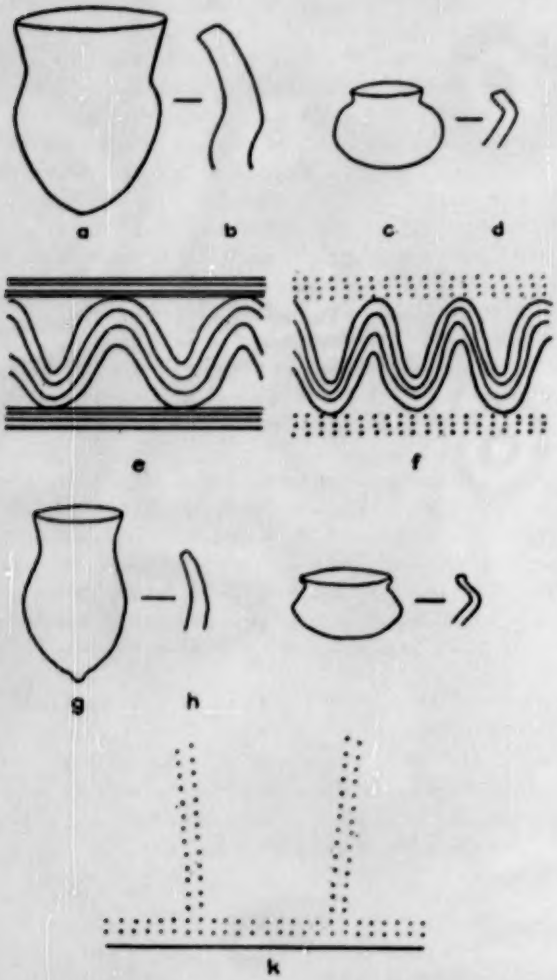

FIG. 2. Outlines of pottery made by Agarabi (*a*, *c*) and at Lihona (Kamano community) (*g*, *i*). *b*, *d*, *h*, *j*, corresponding rim cross-sections; *e*, *f*, typical designs found on jars represented by *a*; *k*, design of jar *g*.

The designs on these jars do not vary greatly. On the lip, all jars observed had narrow to broad parallel incised lines, diagonal or perpendicular to the edge of the lip. The basic decoration on the lower part of the neck consisted of two sets of three to six parallel incised lines with three to six parallel undulating incised lines between them—all of these encircled the vessel (Figure 2, e). The lines may vary from fine to medium. In a few instances, the parallel incised lines were replaced by parallel rows of fine punctations (Figure 2, f). All designs are characterized by lack of symmetry and rather careless workmanship.

The second vessel form, represented by only two at Ajamoentenu (these were made at Abinakenu), is basically a small, globular form with a short, everted rim and flat lip (Figure 2, c, d). The lip is decorated with diagonal incised lines, and just below the rim-body juncture is a design of four parallel incised lines encircling the vessel. (It may be noted that on the jar I saw made, one of this type, the design was put on and obliterated four times before the final one was left. In general these designs were of the type forementioned with the exception that on the third trial three short parallel horizontal lines were alternated with three short parallel vertical lines around the vessel. Nowhere else did I see this design.)

Clay vessels, although made in only a few Agarabi villages, are found in all of them as well as in villages of neighboring peoples where they are not manufactured at all. At Ajamoentenu, roasting in the fire, steaming in earth ovens, cooking in bamboo tubes, and boiling in clay or tin vessels are now the most common means of food preparation. Although to some extent tins have come to replace clay jars for boiling, particularly where portability is a factor, the clay jar is still preferred by most individuals for boiling because of the alleged superior flavor of the food cooked in it and the greater ease of mashing the food with a stick. Figures of frequency of clay vessels in four of the six hamlets at Ajamoentenu are as follows:

Hamlet	*Number of households*	*Number of vessels*
Abapimpa (including Tonkempa)	44	57
Nawoma	8	10
Kanema	13	18
Ko?masi	2	3

(I have no figures for pottery at Afamo or Onkonumpa.)

All but eight households at Abapimpa had at least one clay vessel and all at Nawoma, Kanema, and Ko?masi had them. Included in the number of households

at Abapimpa, is Karajbe's, a Kamano mission-boy who had four jars (only two of them of Agarabi manufacture), the largest number for any single household. Of the jars at these four hamlets all but eight (three, Unantu; two, Abinakenu; one, Anonantu; and two, Lihona [see *infra*] came from Pomassi II, Pomassi I, and Bilimoia, in that order of frequency.

As objects of trade, the jars command a variety of prices and goods for their makers. Price range in shillings is from six to twenty (now roughly $.75 to $2.25); trade goods include local items such as small pigs (eagerly sought from Bilimoia and Unantu) as well as wooden plates and net bags which the people of Ajamoentenu have procured from other Agarabi (e.g. Tapo) and non-Agarabi (e.g. Ontenu) communities to the south and southwest.

As to the intensity of trade which the vessels at Ajamoentenu represent, two points may be made. In the first place, the vessels are fairly durable, only three having broken during our eight months' stay in the community. Also, Agarabi reckoning of time is imprecise to the point where we can but roughly estimate that the jars now in use have been procured over a period of the last five or six years. All in all, it would seem that pottery, although used by a large number of people, is not used in large quantities.

Data on the presence of Agarabi pottery among neighboring groups are scanty. It is reported to be traded to Kamano villages, at least to those closest to Agarabi territory. It is also reported to be traded to the Gadsup; I have seen three vessels, obviously of Agarabi origin, in two hamlets at Aiyura. At the time of our visit I made no specific inquiries about pottery, however. Pottery is also reported to be used by the Tairora. At the present time there is none at Kamanakera (2 hamlets) nor in the vicinity of Haparira (5 hamlets). Two Agarabi jars are still in use at Ontabura, and several are reported from Abiera and Tonkera. As jars have been broken in the recent past, they have been replaced by tins rather than pottery vessels. It was reported that formerly the Tairora obtained Agarabi jars from communities such as Yauntenu, to which they had come, primarily, from Bilimoia. I have no figures for other Tairora communities.

Finally, the following is added for what it may be worth. In addition to its manufacture by the Agarabi in the Eastern Highlands of New Guinea, pottery is also made in at least one Kamano (Kafe) community, Lihona. Lihona is located in the Bismark Ranges overlooking the Ramu River valley about 15 miles north-northwest of Pomassi I, 20 miles east-northeast of Goroka (in which sub-district it is included), and 7 miles southeast of Mt Helvig. Although classed as Kamano it is reported by Mr William Brown, Acting Assistant District Officer at Kainantu, to be "more closely connected with the Kaieuran people of the Ramu, than with

the Kamano."[1] A Kamano native of Lihona, resident at Ajamoentenu, had in his possession two Lihona clay vessels; they differ from Agarabi pottery.

The two Lihona pots were dark grey to black in color, the walls somewhat less thick than the Agarabi jars. The measurements (in inches) are:

	Vessel A	*Vessel B*
diameter at mouth	7	6
maximum height	16	6
height of neck	4	1
maximum diameter of body	8½	8

Jar A (Figure 2, g, h) had no decoration on the lip while B (Figure 2, i, j) had parallel incised lines running perpendicular to the lip's edge. At the lower part of the neck of A, two parallel rows of small punctations, below which was one incised line, encircled the vessel. At four evenly spaced intervals on the neck were two parallel vertical rows of punctations extending from the horizontal dots to the lip (Figure 2, k). On B, three parallel incised lines encircled the bowl on the upper part of the shoulder. In shape, A had a high neck, very slightly everted rim, and elongated body with a knob at the bottom. B was of short body, with wide shoulder and short rim.

In conclusion, a word about the geographical distribution of Agarabi pottery-making may be in order. All of it, without exception, is centered in the northern part of Agarabi territory, the leading pottery-making centers themselves being on the northern and eastern fringe of the Eastern Highlands. Three points should be noted. In the first place, deposits of clay suitable for pottery manufacture are said to be found only in this northern area. Without detailed knowledge of soil type distribution in the Eastern Highlands it cannot be assumed that these are the only such deposits. However, we have observed no others, nor has any been reported by natives from a variety of districts; and the fact of the absence of pottery-making among groups to the south of Agarabi may be, in part at least, a reflection of the absence of suitable clay. Secondly, the leading Agarabi pottery-making centers are very close to lowland areas (Markham and Ramu River valleys), and thus have an opportunity for direct contact with traditional pottery-making peoples. However, there is no evidence that Pomassi I, Pomassi II, Bilimoia, and Anonantu have closer relationships with the lowlands than do other Agarabi communities without a sizeable ceramic industry, or, for that matter, than do individuals of other language groups to the south (e.g. Gadsup). Of the two

1 Personal communication, September 28, 1954.

lowland areas referred to, the Agarabi, today at least, have more contact with people of the Markham valley than with those of the Ramu; a variety of articles is traded, including coconuts, the husks of which are used in pottery-making. Finally, it should not be overlooked that we may be dealing with a more complex development involving selective borrowing and intimately bound up with past migrations of the Agarabi and general population movements in the Eastern Highlands and adjacent lowland regions.

KARIANTU
NEW GUINEA

NAVAHO CHILDREN ON RAVEN PROGRESSIVE MATRICES AND GOODENOUGH DRAW-A-MAN TESTS

RALPH D. NORMAN AND KATHERINE L. MIDKIFF

INTRODUCTION

PSYCHOLOGISTS AND ANTHROPOLOGISTS have for many years sought a measure of intellectual ability which would be uniformly applicable to different cultural groups. The problem has obviously been one of attempting to develop an instrument which would come as close as possible to measuring basic capacity as distinguished from ability, for the latter carries with it the freight of cultural learnings. As Kroeber points out, in discussing questions of racial endowment and their validity, "If the human races are identical in capacity, or if, though not absolutely alike, they average substantially the same in the sum total of their capacities, then such differences as they have shown in their history or show in their present condition must evidently be the result mainly of circumstances external to heredity." He also states that the crux of the problem of investigating racial differences in endowment "lies in the recognition and stripping-off of cultural, social, and environmental factors, so far as possible, from the complex mass of phenomena which living human groups present."[1]

Among psychologists, Cattell[2] is of the opinion that a common ground of knowledge can be found among different cultural groups. He rejects the idea that because of cultural barriers, the measurement of the capacities of widely scattered peoples is, as many aver, a difficult if not impossible task. He argues that tests of mazes, series (i.e. tests building up from progressive variations in shape or size to variations in relations between shape and size), progressive matrices, and mirror images would be ideal for this purpose. He goes further and presents samples of these in a proposed new hypothetically culture-free test. Cattell contends that "although the present test is intended primarily for studying intelligence differences in social and cultural divisions of civilized countries, it should admit of being used also with primitive peoples."[3] It should be added here that tests of the progressive matrices type, which are used in the present study, form a substantial part of the Cattell Culture-Free Test of Intelligence in its

1 A. L. Kroeber, *Anthropology* (New York: Harcourt Brace, 1948), p. 179.

2 R. B. Cattell, *A Culture-free Intelligence Test I* (Journal of Educational Psychology, vol. 31, pp. 161-179, 1940).

3 *Idem*, pp. 177-178.

finally published form.[4] Regarding the usage of this instrument in diverse cultures, a very recent statement, based on a personal communication from Cattell, is that of Anastasi. She says, "In addition to their use in Great Britain and America, these tests have so far been administered in Hawaii, France, Germany, and the Belgian Congo, but no results from these applications have as yet been reported."[5]

The present paper is largely concerned with the Progressive Matrices Test, developed in Britain in 1938 by Raven, and which Anastasi classifies as a "cross-cultural" test. Her description of the instrument is as follows: "This test, designed as a measure of Spearman's *g* factor, requires primarily the eduction of relations within abstract material. It consists of 60 matrices, or abstract designs, from each of which a part has been removed. The subject chooses the missing insert from 6 or 8 given alternatives. The items are grouped into 5 series, each containing 12 matrices of increasing difficulty but similar in principle. The earlier series require chiefly accuracy of discrimination; the later, more difficult series involve analogies, permutation, and alteration of pattern, and other logical relations. . . . The test is administered with no time limit, and can be given individually or in groups. Very simple oral instructions are required."[6]

In 1947, Raven published a variation of the original Progressive Matrices Test, so organized as to be given in booklet form,[7] and especially constructed for children of 5 to 11 years of age. It is this booklet form which was used in the present study. This 1947 revision has three sets—Set A, Set Ab, and Set B. Set A is the simplest of the "matrices" patterns, the problems consisting largely of pointing to the missing matrix (out of a number of possible alternatives) from a larger perceptual pattern or design. Set Ab continues the concept of Set A but also introduces logical relationships among patterns. Set B is the most difficult, bringing in the analogies type of problem among the various designs.

In his manual Raven has published "working Percentile Points" calculated from the scores obtained by 608 Dumfries school children over 5 and under 11½ years of age. These percentile points are the closest available data to norms which are available for the booklet form of the test. It was these norms which were used in this study for comparative purposes, as will be explained later.

The problem of the present study may be stated quite simply. It was to investigate the adequacy of the Progressive Matrices Test as a "culture-free" measure among a group of children stemming from a culture which was different from

4 R. B. Cattell, *A Culture-free Test* (New York: Psychological Corporation, 1944).

5 Anne Anastasi, *Psychological Testing* (New York: Macmillan, 1954), p. 261.

6 *Idem*, pp. 261-262.

7 J. C. Raven, *Guide to using Progressive Matrices (1947), Sets A, Ab, B* (London: H. K. Lewis, 1951).

that of the children on which the test was originally standardized. In other words, how do a group of Navaho Indian children from the American Southwest fare on this test? In addition, a secondary purpose of this study was to compare the performance of these children on the Progressive Matrices with their performance on another test which has found rather wide applicability to other cultures, and which has been used previously among Indian children. This latter test is the Goodenough Draw-a-Man Scale.[8]

POPULATION AND METHOD

The data for this study were obtained from 96 Navaho children attending the United States Indian School in Albuquerque, New Mexico. Children in the elementary division of the school were tested during the months of October to January, 1953-54. These children are classified into three groups—Beginner, Primary, and Intermediate. The Beginner group consists generally of younger children, the outstanding characteristics of this group being that they have had no White schooling and speak little or no English. In Beginner status, the child is taught reading, writing, and English language. There were 27 children (16 girls and 11 boys) of the Beginner group in this study, ranging in chronological age (CA) from 6 years, 6 months to 13 years, 9 months, with a median CA of 9 years, 8 months.

The Primary Group is composed of children who are somewhat older than Beginners and who have been to school at least one year. They have sufficient command of English to do the work of the first, second, and third grades. Our study included 34 children (18 girls and 16 boys) from this group, ranging in CA from 9 years, 6 months to 13 years, 6 months. The median CA was 11 years 6 months.

The Intermediate group comprises children who are generally older than members of either of the other two groups; they have attended school at least three or four years, and pursue the curriculum of the fourth, fifth, and sixth grades. In this study, there were 35 children (15 girls and 20 boys) from the Intermediate group. The CA range was from 10 years, 11 months to 15 years, 6 months; the median was 12 years, 8 months.

The Progressive Matrices (1947), Sets A, Ab, and B, was given first and individually to each child by the junior author in a room separate from the classroom. Design A1 of the test was used as an example in the explanation of what the child was to do, as suggested in the manual. The directions in practically all

8 Florence L. Goodenough, *Measurement of Intelligence by Drawings* (Yonkers-on-Hudson: World Book, 1926).

cases of the Beginner group had to be given in the form of pantomime. First the whole design was shown; then it was pointed out that each piece at the bottom of the page could fit the missing space but that all but one was not the right pattern. This was continued until the examiner pointed to the correct missing piece and emphasized it. The examiner then pointed to problem A2 and indicated that the child was to find the correct missing piece that belonged to the blank space. If the child did not understand the problem, the examiner returned to the first problem and explained the process again. This was repeated until the child understood. When problem 4 of any set was reached, regardless of the answer, the examiner asked that the chosen pattern be indicated again. This was in accordance with the directions given in the manual as a check on the child's understanding. After problem 4, the choice, whether right or wrong, was recorded without question or further explanation.

In practically all cases the children were interested and, it was assumed, did their best. The average time required to test each child ranged from 20 to 30 minutes, never more than 45 minutes. It was not difficult to get the children to understand what was required, and it was felt that rapport was established quickly.

The Goodenough Test was given to the children in their respective classes as a group test. Instructions of the test author were used. In some cases in the Beginner group, the instructions were repeated in the Navaho language.

In order to render the two tests comparable, it was decided to report data in the form of mental age (MA) and IQ. Securing MA is no problem with the Goodenough, but with the Progressive Matrices no mental age equivalents are given. However, it was decided arbitrarily to take the 75th percentile point of the Dumfries children at each age level as representing the typical performance of children at that age. (This is roughly in line with the type of approach used in the Binet tests.) Thus the 75th percentile at CA 5½ is 15 points, so the latter became MA of 5½. In only three cases was extrapolation from the table necessary. Whereas this procedure is admittedly somewhat dubious, it did not affect results materially.

It should be noted here that there is some hazard in comparing these Navaho children with two different normative groups, namely, Scottish children in the case of the Progressive Matrices, and American children in the case of the Goodenough. However, there is little reason to doubt that if both Raven's and Goodenough's samplings have been adequate, American and Scottish children would differ radically from each other on either test. Anastasi[9] points out in the case of

9 Anastasi, *op. cit.*

the Progressive Matrices at least that Rimoldi, testing 1680 children in Argentina, found norms closely similar to Raven's with the original test.

Another problem, especially in relation to the IQ, in testing these Navaho children was to ascertain the correct chronological age for a number of them. Exact dates of birth were not available for 24 children, although the school personnel would state that a particular child was "9 years old." In such cases the half-year was taken as the CA, so that a child of 9 was given a CA of 9 years, 6 months. This undoubtedly introduced some error in the IQ's, but it was felt that it was not in any way serious.

RESULTS

Table 1 presents the results on both tests. It is quite apparent that the IQ level, as estimated from the Progressive Matrices, is far inferior to that derived on the Goodenough. This is true for all three groups—Beginner, Primary, and Intermediate—and in each group the magnitude of the difference is approximately

TABLE 1

IQ Values for the Three Groups on Both Tests

		Progressive Matrices		*Goodenough*		
Group	*No. Cases*	*Mean*	*S. D.*	*Mean*	*S. D.*	*Diff. in IQ (pts.)*
Beginner	27	65.96	17.08	100.19	21.07	34.23
Primary	34	64.29	13.49	101.85	16.61	37.56
Intermediate	35	64.77	9.72	96.03	16.07	31.26
Total	96	64.94	13.47	99.26	17.98	34.32

the same size. For the total group of 96 children, the mean estimated IQ on the Progressive Matrices is 64.94, whereas the IQ on the Goodenough Draw-A-Man Test is 99.26. The latter figure is very close to the level of 100 IQ which would be expected in any group of randomly selected American White children. The mean difference in IQ between the two tests is 34.32 points: the critical ratio of this difference to its standard error is 17.0, a highly significant figure statistically.

Another question of interest is that of sex differences. Havighurst et al[10]

10 R. J. Havighurst, M. K. Gunther, and I. E. Pratt, *Environment and the Draw-a-man Test: the Performance of Indian Children* (Journal of Abnormal and Social Psychology, vol. 41, pp. 50-63, 1946).

tested 325 Indian children of the Sioux, Hopi, Zuñi, Zia, Navaho, and Papago tribes in nine communities with the Goodenough Test. These children ranged in CA from 6 through 11. Their results showed Indian children to be superior to White children, with average IQ's ranging from 102 to 117. A finding of some importance is their report that boys from Pueblo groups do significantly better than girls, the differences in favor of the boys extending between 14.5 and 21.0 points in the various Pueblo samples. On the other hand, their Navaho (Shiprock) group showed no difference between the sexes, the mean IQ for boys being 110.1, whereas that for girls was 109.4. These investigators explain these differences between Pueblo and Navaho as being due to cultural factors operating within the different tribes.

Our data yield a mean IQ on the Goodenough of 96.12 for females and 102.53 for males. These IQs are somewhat lower than those obtained by Havighurst, but the critical ratio of the difference between the sexes is only 1.76, which is not statistically significant. It would appear that although Havighurst's IQ's are somewhat higher, there is no important sex difference in his study either. The Progressive Matrices yields an IQ of 64.14 for girls and 65.77 for boys, also a statistically insignificant difference.

The correlations between the two tests might be of some interest. Goodenough mental age correlates .35 with the mental age derived from the Progressive Matrices; the IQ's between the two tests have an *r* of .24. For 96 cases, both these correlations are statistically significant—the former at the 1 percent level, the latter at the 5 percent level. However, although these *r's* are significant, they do not by far approximate the relationships found in other studies between the Progressive Matrices and other measures of intelligence when using White children. Martin and Wiechers,[11] for example, testing 100 school children between their 9th and 10th birthdays, found correlations of .91, .84, and .83 between the Progressive Matrices and the Wechsler Intelligence Scale for Children (WISC)–Full IQ, Verbal IQ and Performance IQ respectively. Stacey and Carleton[12] also found higher correlations than those of the present study. Using 150 children referred to an institution for mental defectives, they found the following *r's* between the Progressive Matrices and other measures: .69 with the Stanford-Binet MA; .71 with Stanford-Binet IQ; .54 with WISC Verbal IQ; .52 with WISC Performance IQ; and .55 with WISC Full Scale IQ.

11 A. W. Martin and J. E. Wiechers, *Raven's Colored Progressive Matrices and the Wechsler Intelligence Scale for Children* (Journal of Consulting Psychology, vol. 18, pp. 143-144, 1954).

12 C. L. Stacey and F. O. Carleton, *The Relationship between Raven's Colored Progressive Matrices and Two Tests of General Intelligence* (Journal of Clinical Psychology, vol. 11, pp. 84-85, 1955).

The data on correlations above are cited because it is possible that cultural factors may lower relationships among tests given to Indian children, whereas these relationships would seem to be firmer among White children. It is of some import, in connection with this observation, to state that Havighurst et al, in the study previously cited, found generally low correlations between the IQ's on the Goodenough and those derived from the Grace Arthur Scale, another performance measure of intellectual ability. These correlations were: for Zuñi, .10; for Hopi, .21; for Shiprock Navaho, .23; for Sioux, .33; for Papago (Topawa), .64. They say, "These coefficients are quite low, with the exception of that for Topawa. They are much lower than we should expect for white children."[13] They cite a correlation of .63 between the Cornell-Coxe Scale, an instrument much similar to the Grace Arthur, and the Goodenough for midwestern White children. Their study and ours are in essential agreement, then, in demonstrating low correlations between performance measures for Indian children. We are not prepared to say what factor or factors would account for this phenomenon.

DISCUSSION

It is quite apparent from our results that the Progressive Matrices Test, for some reason, is inadequate as a cross-cultural instrument for evaluating intellectual capacity. Raven, in a personal communication to the senior author states, "Your findings are, I fancy, in accordance with other anthropological studies. . . . I have not yet any exact knowledge, but I have recently had rather similar information from France. They have made an extensive anthropological study of native African children in the French African colonies. In general they find that native children who have received no education 'do not think' as Europeans think. They enjoy making patterns, but do not think logically or even, as we tend to do, more or less lineally. They find, however, that these children can acquire what might be regarded as European ways of thinking, and when they do, they begin to perform the Matrices test in the same way that we would do it. In other words, the score increases with the amount of European schooling, rather than with the amount of European knowledge, such as ability to speak European languages, etc. . . . I may add that the test is being used in India and China as well as with African and New Zealand natives. As far as I know at present, Indians and Chinese do the tests much as we do them, in contrast to the way they are performed by Africans and Maoris."[14] It would appear from this communication that "native" populations do poorer than Europeans or perhaps even Indians and Chi-

13 Havighurst, Gunther, and Pratt, *op. cit.* p. 57.
14 J. C. Raven, personal communication, March 5, 1954.

nese. However, we find no evidence for the fact that the "score increases with the amount of European schooling," for there are no differences whatsoever among our Beginner, Primary, and Intermediate groups in IQ levels.

It is of some moment to report here that Notcutt,[15] using the 1938 Progressive Matrices, finds results which indicate that the median scores for Zulus is much below that of the English norms reported by Raven. The median score for the Zulu sample at 11½ years is the same as that of the English sample at 8; Zulu 12½ years equals English 8½; Zulu 13½ is equivalent to English 9; and Zulu 14½ about that of English 9½. It would thus appear that in the case of median scores, at least, the decrement between British and Zulu samples of children grows greater with age in this somewhat restricted age-group comparison. Notcutt criticizes the Progressive Matrices because it gives skewed distributions in both groups, and he feels that it is not suitable for making inferences about either the "true" distribution or "real" rate of growth of intelligence.

We believe that our results are of particular interest in view of the well-known skills of the adult Navaho in sand-painting and weaving. Both these activities involve design-making of no mean order. When the study was originated, it was felt that these Navaho children should do well with a test like the Progressive Matrices, since there was some suggestion that the patterns on the test might have some ideational connection with Navaho designs, for example. However, there were instances when the subjects chose very bizarre responses (bizarre from the standpoint of the examiner, it should be added), and yet it was certain that the instructions were understood.

SUMMARY AND CONCLUSIONS

The present study investigated the adequacy of the Raven Progressive Matrices Test (booklet form) as a "culture-free" measure of intelligence among 96 Navaho Indian children with various degrees of White schooling. It also contrasted the performance of these children on this test with their performance on the Goodenough Draw-a-Man Test. Results were that, in terms of IQ level, Navaho children did far more poorly on the Progressive Matrices (mean IQ 65) than they did on the Goodenough (mean IQ 99). Correlation between the two tests is low, and sex differences on both tests are negligible. Poor performance of these children on the Raven test is consistent with findings from other psychological studies of native populations.

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15 B. Notcutt, *The Distribution of Scores on Raven's Progressive Matrices Test* (British Journal of Psychology, vol. 40, pp 68-70, 1940).

A TIV POLITICAL AND RELIGIOUS IDEA*

PAUL BOHANNAN

IT IS, since the monumental studies of the thirties and forties, fairly simple for the anthropologist of an African society to record that aspect of the social and political structure which the French call *morphologie sociale*. It is not equally easy for him to record and analyze the workings of his society—to analyze the vectors of social process. In order to make an analysis of social morphology we must investigate the relevant words, concepts, and images with which the people of that society themselves visualize it. It is equally true that we must analyze the relevant words, images, and concepts by which a people discuss the process of their society if we are to understand these processes. We must know not only about indigenous ideas of "political organization" but also about indigenous ideas of "government"; not only about words for "lineage" and "clan" but also those for judicial processes and executive action; not only concepts of "god" or "fetish" but those for "worship."

This article is an exercise in the exposition of a Tiv idea which deals both with government and with ritual—the word *tar*. It can—very inadequately as we shall see—be translated "country" or "land"; sometimes one can translate it "home." *Tar* is an especially rich word with an internal structure which gives us a key to the linkage of several concepts which are to us, thinking in English words and categories, distinguishable—indeed, vastly different—systems of thought and action. The word has meanings which we must take into consideration when we examine the social morphology of Tiv society. There are still other aspects of it which must be taken into consideration when we examine Tiv notions of economics and the food quest.[1] There are still further notions in the word *tar* which we would classify as belonging to Tiv cosmographical world-view, and to religion.

The concept is most adequately studied by first comparing and contrasting the word *tar* with several other words, and then later investigating carefully some of its usages. The words I have paired for contrast are not specifically so paired by

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1 Other discussions of *tar* will be found in Laura and Paul Bohannan, *The Tiv of Central Nigeria* (London: International African Institute, 1953), pp. 20-22; Paul Bohannan, *Tiv Farm and Settlement* (London: Her Majesty's Stationery Office, 1954), pp. 8-14.

Tiv—all the statements which I shall make were told me by Tiv in one context or another, but the arrangement is an analytical one, not an ethnographic one. The first section will review briefly (I) the relationship between *tar* and *ipaven*, the segment in the lineage system; the second (II) will contrast *tar* with *nya* (earth) and both with *Aôndo*, sky and God. Finally, section III compares and contrasts *tar* with the *imborivungu* and the *po'or*, two very important parts of Tiv religion.

I. *TAR-IPAVEN* (LINEAGE SEGMENT)

A *tar* is a territory occupied by a lineage segment *(ipaven)*. Tiv organize themselves into what we call, in anthropological English, a lineage system. They formulate this organization in terms of genealogies running patrilineally from themselves back seventeen or eighteen generations to "Tiv," the original ancestor of them all.[2] Each of the ancestors in the genealogies who is postulated to have lived more than four or five generations ago lends his name to the social group of his agnatic descendants. These social groups, who call themselves by the plural form of the name of their agnatic ancestor, form the basis of communities. The areas of the smallest lineages to form local groups come to about 1200 acres or rather indefinitely larger, and the population is from 150 to as many as 1500 people. This area, within which eighty-three percent of the resident males are agnatic members of the lineage which is associated with it, is called the *tar*. The name of the *tar* is the same as the name of the agnatic lineage which inhabits it—the plural form of the patronymic ancestor. All of the homesteads and farms within this area—and they will be fairly evenly spread over the ground—are the homes of agnatic members of the lineage associated with the *tar*, or of their kinsmen or "guests" *(mba ya inya)* to whom they have given temporary cultivation and building rights.

In such a situation, Tiv refer to the lineage *(nongo)* which is associated with a *tar* as a "segment" *(ipaven)*. The term "segment" is applied to a social group; the word *tar* is applied to the area occupied by that social group. Perhaps it would be more accurate to say that the term "segment" has overtones of both descent principles and spacial group principles. The term *tar* on the other hand, refers to the same group as a co-residential unit, and it refers to the ground on which they reside and farm.

Two minimal *utar* which are side by side, whose associated lineage segments are descended from a common ancestor, are taken together and form a larger, inclusive segment and a larger, inclusive *tar*, both named after the common ancestor. At this new, higher level of the lineage system—associated with larger and

2 See Laura Bohannan, *A Genealogical Charter* (Africa, vol. 22, pp. 301-315, 1952), p. 302.

more inclusive *utar*—the same statement can be made: two larger *utar* which lie side by side, whose associated segments are descended from a common ancestor, are taken together to form a still larger segment and a still larger *tar*. The largest *tar* which Tiv see, in this particular set of images is "Tivland"—*Tar Tiv*.

Thus the first meaning of *tar*—and I believe it can be said to be the "basic" meaning—is the notion of a territory associated with and defined by a social group, in this case a lineage which Tiv will consent to call an *ipaven*, a segment. We might, to make the comparison clear, say that the system of *utar* is a view of geography, for Tiv have no place names (except those of streams and hills) except the names of their *utar*. The *tar* is the country, the land of the Tiv; it contains many smaller *utar* which are defined by the lineages into which Tiv divide themselves and in terms of which they see some of the most significant of their relationships with one another.

II. *TAR-NYA* (EARTH)

That Tiv do see the word *tar* in connection with social groups was indicated also by the answer I received from an elder when I asked him to help me distinguish *tar* from *nya*, earth or soil. After some thought he said, "Plants grow in the earth, but come up on the *tar*. Plants and people and their compounds comprise the *tar*." Therefore, *tar* can be said to represent, at least in part, something which we might compare with our notions of human geography, whereas the word for earth is associated solely with what we see as physical geography or with cosmography.

Tiv tell me that the earth—this same word, *nya*—is a cone of soil (again *nya*) which is surrounded by water which they call the "great river" *(ifi i tamen)*, the sea. The summit of this cone of earth is at a high hill reputed to lie vaguely to the southeast of Tivland, but not too far away. Some Tiv say that this hill may be among the Sonkwala Mountains, others that it is in the area known to us as the Cameroons Highlands. But no Tiv care to place the summit of the earth anywhere precisely. All insist that they have never been there, so they do not know exactly where it may be; however, it is a place to which a person might well go.

From this summit of earth, all rivers flow first through the land of the black men, including the land—the *tar*—of the Tiv. They become larger as they continue their descent, and the rivers enter the land of the Europeans, eventually flowing into the great river which surrounds all earth.

Tiv tell me that they live comparatively near the summit of the hill which is the summit of the earth. Like most people, they hold an ethnocentric view of the universe. All of the other black men, they say, live nearby, scattered about over

the large area on and just below the summit. All Europeans live farther down the hill than do Tiv and the other black men. One informant—an ex-policeman—had talked (in Hausa, for the most part) with several District Officers about their homes, and all had told him that they had to cross great bodies of water—much larger than the Benue—to reach their homes. Therefore, he reasoned, their homes must be farther down hill. "The huts of black men," he told me, "are along the small rivers; the huts of Europeans are farther down, near the great river."

Another man, an ex-soldier who had been in Burma during the war, told me that the Indians, the Burmese, the Japanese, the British, and the Russians all lived near the bank of the great river. He had, he said, travelled on the great river to get from Lagos to Burma.

Tiv do not know and do not consider whether there is anything beyond the great river, that is, beyond the sea. All Tiv with whom I discussed these matters insisted, "We have never been there, so how should we know?" When I insisted on asking this question, "Can there be more land on the other side of the great river?" one man said No—if there is more land on the other bank, you have reached only another of the large rivers *(dzege-ifi)* above its confluence with the great river *(ifi i tamen)*. It can be so large it might easily be mistaken for the great river. I have been told that in all probability the great river never ends; but all informants insisted that they could not know. The problem of what lies beyond the great river is considered by Tiv to be a difficult problem, but also one without significance. Most were interested in and curious about Europe and America; none was curious about what might lie beyond the great river.

Tar, which is the social aspect of space, can be correlated in many respects with this notion of earth. Tiv do so primarily in terms of a metaphor. They say and teach their children that *Tar Tiv* is the back of a man, stooping with his head to the southeast. The direction of the man's head, which is also toward the summit of the earth, is called the "top (or head) of the *tar*" *(ityou ki taregh)*, while the reciprocal direction, northwest, is known as "the bottom (or buttocks) of the *tar*" *(ityô tar)*. Northeast and southwest are referred to as the right and left flanks or sides of the country *(mbusa tar i mese, mbusa tar i yaan* respectively).

There are no other words for "cardinal" directions in the Tiv language than these. There is a tendency on the part of many (particularly younger) Tiv to correlate the "top of the *tar*" with the rising sun, and the English notion "east." But Ukum elders have pointed out to me the difference between the "top of the *tar*" and the "sunrise." In MbaDuku and Shangev Ya, many elders indicated the "top of the *tar*" as lying at about 110° (though there was as much as 15° variation in either direction) and some declared that it had nothing whatever to do

with the sun, but rather with the hill which is the summit of the earth. Though I believe there is a tendency for the "top of the *tar*" to change direction from one area to another, it is usually east by southeast.

More or less actively assuming this metaphor of the man leaning southeast, Tiv can also indicate directions by means of prepositions: *sha* means "up" (or "on"); *shin* means "down" (or "in"); and *ken* means "across" (or "beside" in some contexts). When one goes toward a place to the southeast, one goes "up" to it; to the northwest "down" to it; and in either of the other two directions "across" to it. These words are, however, applied to vertical position (as in hills) irrespective of their cardinal direction; and one always goes "up" to the top of a compound or to the top of a field. There are verbs which also carry these directional ideas. *Sen* means to "go down," whether it be down hill (this is the verb used of running water) or toward the northwest. *Unde* is to "go up," whether toward the southeast or uphill. If the direction of the incline is in conflict either word may be used.[3]

It is seldom, however, that Tiv give the traveller directions by indicating cardinal directions or these metaphorical directions relating to the earth and the *tar*. Rather, they do so in terms of the various smaller *utar* through which a man must travel. If a man in MbaDuku asks the way to Jato Aka's, he will not be told to "go east" or "go toward the top of the *tar*" (though the verb may imply it), but rather something like this: "You leave *(due)* Kunav and enter Shangev; then you cross it and enter Ikurav, but don't go very far into Ikurav but leave it again and go into Turan. Turan is Jato Aka's *tar*." Within their own country, and those nearby, Tiv do not need cardinal directions, for all adults have a pretty good idea of the location and juxtaposition of the *utar:* they know the relative location of all small lineages nearby, and the relative position of all the major segments of Tivland.

I am not, of course, suggesting that in the West we do not do the same thing. But when we do indicate direction and distance in this way, we do so—like Tiv—when we are speaking to people familiar with the country, who think in terms of communities rather than in terms of mere lines, angles, and distances. I believe that Tiv *always* think of space in these community terms.

There is no uniformity of opinion whether the metaphor of the man leaning forward must apply only to their own *tar—Tar Tiv*—or whether it is applied to a larger area, containing the *utar* of other peoples as well. I have been told both

3 These facts have struck other writers on the Tiv (Rupert East, tr., *Akiga's Story*, London: Oxford University Press, 1939, p. 16; R. C. Abraham. *The Tiv People*, London: Crown Agents, 1940, p. 27).

that the Udam (who live to the south of the Tiv) are on the right hand side of the *tar*, and that they are off the *tar*, to the right. This is obviously a matter of indifference, for one expression gives the position of the Udam as well as the other. Yet in relation to *Tar Tiv*, the land of any other people, or the collectivity of lands of other peoples, may be called "outside" *(won)*. If a traveller is going someplace within Tiv country, he tells the inquirer—an inquiry of destination is a standard greeting—the name of the *tar* to which he is proceeding. If he is going outside Tiv country, it is usually sufficient to say "I'm going outside." The same expression is used of going outside a hut. It is not, however, used for going outside the *tar* of one's own lineage into another *tar* of Tivland.

The Tiv are very much aware of the metaphorical nature of their representation of *Tar Tiv* as the back of a man. They call it a "metaphor"[4] and they are the first to insist that the metaphor is silly if it is carried too far—I was once teased mightily for taking it literally enough to ask if the man had a name. We might view it as a mnemonic device for straightening out the directional prepositions.

Comparison of the word *tar* with the Tiv word for "earth," *nya*, has made it possible to draw certain further conclusions about the nature of *tar*. By earth, *nya*, is meant soil, dirt—the physical concrete earth. There need be no social reference. But *tar* is the social and political arrangement of people and communities in space. The summit of the earth lies to the southeast of Tivland; the top of the *tar* is that portion of Tivland, or that portion of black man's country which lies to the southeast, thought to be closest to the summit of the earth because of the direction of flow of rivers in Tiv country.

Today, however, the "top of the *tar*" has further meanings, which one hesitates to call either "extended" or "metaphorical." I have heard it used to refer to the territories of politically important lineage segments. In 1950 I heard the segment of MbaDuku referred to as the "top of the *tar*" by persons of other lineage segments of Kunav, of which MbaDuku is itself a segment. Their explanation, to me when asked specifically, was twofold: MbaDuku is the senior *(tamen)* lineage of all Tiv country, and all the streams of MbaDuku flow into Tiv territory, not out of it. In 1952, I heard both Turan and Ngenev lineage of Ukum called the "top of the *tar*." The same reasons were given for doing so. Thus, the notion can be used as a metaphor for political importance, and when it is feasible, the metaphor is given further validity by geographical position.

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4 *Orun-kwagh*, literally a "speaking thing." The *kwagh*, when used as a substantive, has the purpose of giving materiality to modifying participles. I think it perfectly reasonable to translate this notion as "speaking device," almost "speaking tool" (work tools are called "working *kwagh*" etc.). The best English translation varies between "metaphor" and "idiom."

Tar can never be considered apart from the people who inhabit it; a stretch of empty country, Tiv say, is the *tar* of those people who last lived on it, though they have moved away. If MbaDuku were to move into the area now occupied by the Udam tribes to their southwest, the land they left—as well as their new site—would be *Tar MbaDuku*. If Ute (an equivalent lineage to MbaDuku which borders it to the north) were to come into the site left by MbaDuku, it would thenceforward be known as *Tar Ute*. Tiv refuse to consider the possibility of a piece of ground *(nya)* which has never been inhabited.

Finally, when Tiv speak of land shortage, they say that it is the earth or soil, the *nya*, which is insufficient or, more likely, the fields or the fallow are insufficient. Tiv never say that the *tar* is insufficient: such a phrase would be meaningless. Soil or earth—it is the same word—may be good or bad; the criterion is the productiveness of the soil. The tar may be good or spoiled; the criterion is to be found in the social relationships of the people and the social groups who, in their spatial aspect, comprise the *tar*.

It ought also to be mentioned that both Tiv dictionaries that have been published give one of the possible translations of *tar* as "the world." It is my opinion that Tiv have no notion comparable to the English notion of "world" and that we had better be more precise: *tar*, as opposed to the Tiv word *sha* which means "the upwards," can mean what we would call "world" as opposed to the heavens; but a translation such as "here below" is somewhat more accurate. Tiv also sometimes express another notion which we might express in an idiom of the "world" when they say "all the *utar (utar chii)*" meaning Tivland and all the lands of all other peoples. Here also the basic referent is to all the peoples of what we would call the world, in whatever *tar* they may live; the reference is not to the physical world itself. *Tar* refers to the peopled world; *sha* or "upwardness" to the unpeopled "above." In precisely the same way, Tiv classify closely related plants as "those down in the stream" *(shin wagh)* and "those up on the *tar*." *Tar*, in this sense, means "on peopled, dry land" as against the swampy stream-beds which men enter, but in which they do not live.[5]

There is one other meaning of *nya*, the word for "earth," which must be considered lest it be thought that I am unfairly selecting my information. Tiv often juxtapose this notion of earth *(nya)* with that of heavens *(Aôndo)*. *Aôndo* is a most difficult word which has been used, correctly, by the missionaries to translate

5 For instance, one species of plant commonly used for soup is *ityenger* on the *tar*, while another which Tiv consider to be closely related is *ityenger* in the stream. There are many pairs of such terms, but the only ones I recorded which I can identify are *agbur sha tar (Strophanthus hispidus)* and *agbur shin wagh (Clerondendron capitatum)*.

"God." It is also the only way to say "sky." It means both these ideas, yet I am convinced that to say "Sky-God" in English gives a completely false impression. "Heavens" is not much better.

There is a common intensive "God *(Aôndo)* knows and the earth *(nya)* knows that . . . ." Tiv say that since sky or God and earth are always present, they "know" *(fa)* all things. It must be insisted, however, that simply because this might be translated as "God knows and the earth also knows" we cannot for that reason assume that Tiv assimilate or correlate God and earth in any way. No sacrifices are made to the earth; there is nothing which can be called a shrine which is connected with the earth in any way. The earth is not personalized—at least not to the extent that it is among other Western African peoples such as the Ibo, who even make anthropomorphic representations of it. Tiv language allows anthropomorphizing, though not so much as English, and the anthropomorphic qualities of the earth are a function of this linguistic factor.

Tar is not contrasted with *Aôndo* as earth can be contrasted with *Aôndo*. I have never heard it done, and I cannot think of any situation in which it might arise. *Tar* does, however, have religious meanings and usages which are to be considered in the next section.

We have seen that *tar* refers not only to the spatial and territorial aspects of some social groups, but that it also has the further meaning of "peopled world"—that is, it is the social world of men, contrasted with the non-social world of things. It has been suggested by most of the Englishmen with whom I have discussed this matter that the Tiv word *tar* means "home." That is to say, as the territory associated with a lineage, it is the "home" of that lineage.[6] I think it should be pointed out, however, that there are other ideas and notions in Tiv which must be brought in to get the entire meaning of either English or American usage of "home." When a Tiv says "I am going home" he uses the word for compound, or homestead, not the word *tar*. A man's *tar* is always the territory associated with his agnatic lineage; his compound may be in some other *tar*. In this latter case, he will never say "This is my *tar*" but rather, "My compound is in the *tar* of so-and so," or simply "I live in the tar of so and so." Thus, *tar* is home in the sense that it is where one belongs, but not where one actually is living. Similarly, Tiv marriage is virilocal. When a woman goes to join her husband in his compound, her *tar* is still the territory of her natal lineage. She can say she is a wife in the *tar* of her husband, and that she lives there, but never that it is her *tar*, for

6 The word "home" means something slightly different in American speech than it does in English, and I am not completely satisfied with this translation—this is one reason that I have retained the Tiv word. Yet, many aspects of the word "home" are to be found in Tiv *tar*.

indeed it is not. Her compound—her home in that sense—indeed is always referred to as the compound of her husband, after her marriage. But her *tar* is the territory of the lineage to which she was filiated at birth.

III. REPAIRING THE *TAR*.

We have emphasized, in both the preceding sections, that *tar* refers both to the local group of people, and to the social relationships which exist among them. The complementarity—the unity, in fact—of these two meanings can be illustrated in several usages of the word *tar:* first, the notion of "eating *tar*" and second that of "repairing *tar*."

"To eat *(ya) tar*" means to feast; but more important, it means "to enjoy prosperity." It is always contrasted with warfare and violence: the opposite of being aggressive and violent is to "eat *tar*." The peaceful, quiet man who is strong without being aggressive is the Tiv ideal human type. Such a man will, it is said, always "eat *tar*," that is, be prosperous: he will have a sufficiency of crops; his hunting will be good; he will have many wives and children; and he will be generous, successful, and well loved. To "eat *tar*" is the reward of virtue.[7]

All of these meanings—that of local group, that of the values in human relationships, and that of prosperity—are to be found in a veritable knot of ambiguities in the notion of "repairing the *tar*."

Tiv, like many African peoples, often use the phrase "to spoil *(vihi)* the *tar*." *Vihi* is an expression of general unpleasantness which has two antonyms: *do* (either as what we would classify in English as an adjective or a verb—the distinction is not so simple or clear-cut in Tiv) which means "good" or "to make good," and the verb *sôr,* "to repair or to set right." We are interested mainly in that aspect of the word "spoil" *(vihi)* which is an antonym to "repair," and not as an antonym to "good" (in which usages *vihi* means bad, ugly, or unpleasant). To spoil a bicycle is to wreck it and make it unuseable; to repair *(sôr)* it is to put it in working order again. These words can be used of any utensils, tools, or apparatus, and of some mystical forces as well. The word *vihi,* "to spoil," has other meanings which throw light on the usage we are investigating. When a person does something to you or for you which you do not like (especially if you can make a case that he acted in some way incorrectly), you say that he spoils you, that he spoils your heart, or that he spoils the *tar,* any of which we might

7 Several persons who have read this paper have asked how I know that these meanings of the word *tar* form a single concept. How, indeed, does one know a word from its homonym? I have questioned Tiv on this point and been constantly assured that the *tar* associated with the lineage and the *tar* which one eats, and which means prosperity, are the same *tar*. There are, even if the words are homonyms, participations between the two meanings.

translate rather pedantically as "he ruined the basis of relationships between us." Thus *tar* is one of the things which can be spoiled; it can also be repaired.

The *tar* is, in its nature, good *(do);* when it is not spoiled it is usually described as "cool" *(ndoho);* if it has been spoiled it is described as "hot" *(tse).*

When I asked Tiv about the meaning of the phrase "to spoil the *tar,*" the immediate reply was always, "A man who goes around looking for a quarrel *(kelen iyongo)* spoils the *tar,*" and some—especially in the area in which we had recently experienced a war—would add, "A war spoils the *tar* more than anything else." One informant went on to point out that when the elders stop a war, they do so by walking into the middle of the fighting, unarmed, carrying branches of *ayande (Marantochloa flexuosa);* this, he said, was the first step in repairing *tar.* We continued to talk about repairing *tar;* after a great deal of thinking and discussing, he decided that the real meaning is to sit and listen quietly and dispassionately to all sides of a dispute or case, then to give a just decision. Repairing *tar* is a matter of arbitration. What this informant said, in effect, is that repairing *tar* deals with law and with authority and force in society—in a word, repairing *tar* is government.

To repair *tar* is to govern or to arbitrate justly. The Resident of Benue Province at the time we made our study was said to know more of repairing *tar* than any other European. When an elder or a group of elders settle a quarrel, at the end of which the principals take water into their mouths and blow it out in a spray to show that they have no suppressed anger in their hearts, the arbitrating elders are said to have repaired *tar.* When a Native Administration court sits, it is said to be repairing *tar.* Settlement of land disputes—no matter by whom it may be done —is called repairing *tar.*

I emphasize that today the main meaning of "repair *tar*" is to arbitrate or govern. It can be applied to any arbitrator, to any person with governing functions derived from the British Administration, or to any man who is known to give good advice and to have the respect of and influence within his community. So far as I am aware, this basic meaning of "repairing *tar*" is not pointed out in the literature on the Tiv. Rather, another and more sensational and esoteric aspect has received attention.

"To repair *tar*" has a second meaning, the investigation of which takes us immediately into the difficult idiom of ambiguity, metaphor, and equivocality in which Tiv discuss religion and witchcraft. This second meaning of *tar* is to be found in the secret language *(liam)* of the *mbatsav. Mbatsav* are thought to be an organization of the elders of the community, in their combined roles of "witches" and mystical protectors of the community. In their nocturnal meetings

—and also in communicating with one another in daylight—they are said to use a special "language." This "language" is in fact a series of noun substitutions which varies from one part of the country to another. *Tar* is one of the everyday words which is given a special symbolic meaning in the language of the *mbatsav*, or league of witches. Akiga says, and Captain Abraham also notes,[8] and my southern informants agree that *tar* refers to the magical instrument which Tiv call an owl pipe or *imborivungu*. The owl pipe is made from a human tibia—a few were of cast brass—which is decorated with gum from any of several trees, and the red seeds of *Abras precatorius*. Often cowries and bits of felt and mirror are added. It has a membrane of spider's egg case covering one of the openings, and a single hole in it, like a flute. In some cases the top is open, in some cases not. This membrane makes the owl pipe what is usually called a "voice disguiser" by museologists.[9] It is talked or hummed into, and the membrane changes the character of the voice. The owl pipe is usually given the shape of a human head with a very long neck; sometimes the entire human body is represented, particularly in the brass specimens. According to Akiga, there are two types of owl pipe: those of individuals *(or mtswen)* and those of patrilineal descent groups *(ityô)*. The ownership of a private owl pipe is a very closely guarded secret, because if it is known to exist, the patrilineal descent group will "demand that he should give it to them, and they should perform the rites together,"[10] and that it be used by them for repairing *tar*. Akiga is most explicit that the owl pipe of an individual can become an owl pipe of a patrilineal descent group, but that although owl pipes of descent groups are used to repair *tar*, those of individuals are not.

Another magical apparatus sometimes said to be represented in the language of the *mbatsav* by the word *tar* is the one which Tiv call the "father's head," the *ityough ki ter*. My own informants in eastern Tivland told me this, and Captain Downes tells me that he has also heard the word *tar* so used. The head of the father, which is sometimes called *tar*, is the skull said to be that of a former master of the *po'or*. Such skulls are owned by some—by no means all—masters of this "fetish" *(akombo)*. Actually, the owl pipe and the father's head are both parts of the more inclusive mystical apparatus called the *po'or*. There may thus be a regional variation or it may be that anything connected with the *po'or* can be called *tar*.

To repair *tar*, then, sometimes means to perform a ceremony for the owl pipe

8 Akiga's original manuscript (not in translated portion in East, *Akiga's Story*); Abraham, *The Tiv People*, p. 36.

9 Henry Balfour, *Ritual and Secular Uses of Vibrating Membranes as Voice Disguisers* (Journal, Royal Anthropological Institute, vol. 78, pp. 45-69, 1948).

10 East, *Akiga's Story*, p. 226.

or the skull. The use of the word "repair" in this context is not unusual, for performance of almost all rites associated with fetishes are referred to by this word.[11] Akiga says that the ceremony for repairing the individually owned owl pipe necessitates no more than the killing of a mouse, but that the repairing of the owl pipe of a patrilineal desecent group—repairing *tar*—requires the life and blood of a person. He notes further that though some people say that a person is killed for the owl pipe, those whose knowledge he respects say that the ceremony is actually performed with the aborted foetus of a first pregnancy. He also states specifically (in different places) that the rite is carried out by both all the members of the patrilineal descent group in question, and by the *mbatsav*.[12]

In the same way, "to repair *tar*" may sometimes mean performing a ceremony involving killing a chicken for purposes of activating a force thought to be inherent in a properly consecrated "father's head." As in the case of the owl pipe, this is thought to involve the sacrifice of a human life in some way or another. Usually the actual mechanism is a mystery, and its being a mystery is part of its value. Any death which occurs in the community can be—but may not be—attributed to the master of the *po'or* and the *mbatsav*. They need human lives to carry out their work of "repairing *tar*," which involves the prosperity of the social group. We can read such a statement as a metaphorical expression that the social group and its well-being must come before the life and well-being of any specific, given individual. All reports agree that the matter of "repairing *tar*" (owl pipe or father's head) is connected with the fertility of farms and crops, with hunting, with fertility of women and with health—all of these things at once.

Now, again, I want to look at the possibility of translation of *tar* in this context with the English word "home." It definitely gives us part of the meaning of the word to say that government as well as religious activities are concerned in repairing the home—especially when we think of that aspect of "home" which deals with rather larger communities than just the house and family. What we are doing if we do make such a translation is to make the English word "home" mean the sum of social relationships, as well as the peace and prosperity with which it is desirable to endow these relationships. The redefinition of the English word necessary to make the translation is very extensive.

The "cult" (if we may call it such) of the owl pipe, of the father's head—indeed, of the whole *po'or*—has been driven very far underground today. In 1929, in an "anti-witchcraft" drive, government took up all the owl pipes, as well as all other emblems, which they could lay their hands on. I have seen a good many

11 The antonym in this case is not "to spoil" but "to pierce" *(pev)* or "touch" *(bende)*.
12 East, *Akiga's Story*, pp. 227-229, 248.

specimens of both owl pipes and skulls, with two exceptions in museums. I know that *po'or* rites were carried on in the compound in which I was present in 1952; I got a great deal of information on these rites, but I did not see them all. I had not been initiated, and my Tiv friends—who, though they knew me well and trusted me in most matters—trust no one with a white skin with all the full knowledge of *po'or*. They were very polite, and raised the initiation fee to a point which they knew I could not pay.

Enough has been said here, however, that we can see that the notion of *tar*, and concepts of repairing *tar*, lie at the basis of Tiv social process. The phrase "repairing *tar*" contains an ambiguity: it means government, more or less in the sense that we know it—the temporal restoration and control of human relationships toward the state which is conceived as a maximum good. But it also means the religious reparation of the community, and with it supernatural aid in the production of wealth, plenty, and contentment—of prosperity. To "repair the *tar*" is to arbitrate, and to keep the *tar* "cool." It is also to carry out the rites which contribute toward health and fertility. Within the notion of "repairing *tar*" temporal political activity, economic activity, and religious belief and ritual are a single idea. There is an aspect of law and warfare—and therefore of government—and also an aspect of cosmography and of demography and of religion. *Tar* is one of the basic notions which underlie Tiv organization and imaging of their own way of life.

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ESKIMO ARCHAEOLOGY IN SIBERIA[1]

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THE "IRON CURTAIN" which divides Bering Strait also splits the ancient culture area of the Eskimo (or their cultural ancestors), veiling a sizable portion in obscurity. Probably in no other area of the New World have political boundaries so seriously hampered the study of prehistory. Western archaeologists have had to remain ignorant of the situation only a relatively few miles distant from some of their most important sites. Our picture of the ancient Bering Sea world thus tends to be one-sided, and our resultant deductions of questionable validity. The situation becomes especially trying when there seems strong likelihood that the formative stages may be best represented on the Siberian side. Since field work by Westerners is out of the question, the only alternative is maximum utilization of existing source materials for whatever light they may shed.

Davis[2] briefly noted the principal data available as of 1940, although he did not exhaust the possible sources. Since then, extensive Russian field work has taken place on the coasts of the Chukchi Peninsula. This was very briefly reported in a Swedish publication[3] which doubtless escaped the notice of many students in this country. As the latter is scarcely more than a short, uncritical book review of the resultant Russian monograph, it seems likely that Western archaeologists might like a more detailed summary of this important work—especially since the original is even less readily available than most Russian publications. In addition, data have now been published on some older Russian collections from the area, as well as on recent work in the Kolyma region. All in all, it has seemed a propitious moment to summarize this considerable body of evidence for the benefit of Western readers. To make the record as complete as possible, reference will be made to all material known to the writer in Western sources and collections. Finally, it will be pertinent to consider current Soviet views on the problem of Eskimo origins.

The most important field work to date was carried out in 1945 on the southeast coast of the Chukchi Peninsula by the distinguished Russian archaeologist S. I. Rudenko. This was in the nature of a reconnaissance: location and testing of

1 The author is indebted to Henry B. Collins for the loan of a rare bibliographical item, and to Froelich Rainey and Douglas Osborne for information regarding their respective museum collections.

2 Davis, 1940, pp. 36-38.

3 Paulson, 1951

sites, gathering of collections, and some limited excavation at the most promising points. Rudenko's excellent report[4] describes the work, the sites, and the sizable collection of specimens, and is copiously illustrated. The most important result was the discovery at Uelen, near Cape Dezhnev (East Cape), of a major site of the earliest (Okvik) stage of the Bering Sea culture sequence. The evidence suggests that the center of gravity at this period was on the Siberian shore, and Rudenko has therefore felt it more appropriate to call the stage "Uelen-Okvik"—especially since Uelen appears to be a "pure" site uncontaminated by extraneous or later material as is the type site on Punuk Island. Remains of all succeeding stages were identified at one point or another on the coast of the Chukchi Peninsula, but nothing earlier was found.

In 1946 the top-ranking Siberian archaeologist A. P. Okladnikov excavated briefly at two sites on Cape Baranov, some seventy kilometers east of the mouth of the Kolyma. Two semi-subterranean houses were opened at "Sarychev Cove," and one at the next adjoining cove to the east ("Vtoroi"). A full report on this work has yet to appear, but a detailed study of the harpoons recovered was published in 1953,[5] supplementing the brief preliminary notice.[6]

In the years 1908-1910 two considerable collections of Eskimo material were received by the present Gosudarstvennyi Etnograficheskii Muzei in Leningrad, gathered by Borisov and Bettak in ancient house ruins. Unfortunately, most of the specimens are poorly documented, but at least they are known to have come from the coast of the Chukchi Peninsula between Cape Serdtse Kamen on the Arctic Ocean and Cape Bering in Anadyr Gulf. A brief notice of these collections with a few illustrations appeared in 1941,[7] and a detailed study of the toggle harpoon heads in 1947.[8] However, these reports are now superseded by Rudenko's monograph described above, which incorporates the material. Minor Russian collections will be noted in the catalogue of sites below.

Siberian Eskimo material in Western museums includes Rasmussen's collection from Cape Dezhnev;[9] the Washington State Museum collection from the cemetery at Puoten Bay, on which only scanty data have been published;[10] and the few specimens brought back from the arctic coast by Nordenskiöld's[11] and

4 Rudenko, 1947b.
5 Beregovaia, 1953.
6 Okladnikov, 1947.
7 Machinskii, 1941.
8 Rudenko, 1947a.
9 Mathiassen, 1927, part 2, pp. 177-179; 1930, pp. 72-78.
10 De Laguna, 1940, plates I:8, II:1,2; 1947, pp. 234-235.
11 Nordenskiöld, 1881, pp. 443-444; Mathiassen, 1927, part 2, p. 179.

Sverdrup's[12] expeditions. A few other scientific visitors to the area have noted the existence of ancient remains, and there are a small number of scattered specimens in various museums. This, then, is the corpus of data which we propose to summarize, primarily in the form of a catalogue of the archaeological sites.

ESKIMO SITES IN SIBERIA

The sites are listed in geographical order, beginning at the extreme northwest on the arctic coast and running around the Chukchi Peninsula to Anadyr Gulf. All are located with reference to the National Geographic Society map of the U.S.S.R. (1944).

Chetyrekhstolbovyi Island

Easternmost of the Bear Islands (Medvezhie Ostrova) off the mouth of the Kolyma River. The name means "Four Pillars," referring to a group of rocks which constitute its most conspicuous feature.

Sverdrup[13] reports two sites of three house mounds each on the north and south sides of the western extremity of the island. In 1925 two houses were investigated at the southern site, revealing many potsherds, some stone knives, two stone spear points, and two harpoon heads of walrus ivory. The latter, of Birnirk type, are illustrated by Mathiassen.[14] A map of the island[15] prepared by a member of the expedition indicates ancient house ruins at several points, but the locations shown do not seem to correspond to the statements in the text.

In 1948-1949 a hydrographer of the Northern Sea Route Administration (GUSMP) A. M. Syrchina found what was apparently another old dwelling at some point on the island.[16] Finds included Birnirk harpoons of Types 1 and 2, a Thule type harpoon, and metal engraving tools in bone handles, all being very similar to the artifacts from Sarychev Cove at Cape Baranov (q.v.). At a later date, either at this or another site, similar harpoon types were found with 17th century Russian trade beads. It is concluded that the ancient inhabitants very probably came here from Cape Baranov, and that their culture was still in existence at the time of the first trade contacts with the Russians. The island was uninhabited, however, when first visited by the latter in 1763.

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12 Sverdrup, 1930, pp. 211-212, 353, plate xxv; Mathiassen, 1927, part 2, pp. 179-180.
13 Sverdrup, 1930, pp. 211-212.
14 Mathiassen, 1927, part 2, fig. 12.
15 Sverdrup, 1930, p. 353.
16 Referred to in Beregovaia, 1953, pp. 425, 427, 431, 435, 441.

Bear Islands

Ancient remains existed on the five other islands of the group in 1763, according to Sergeant Andreev, who specifically noted pit houses on two of the smaller islands, including the northernmost. Leontiev, who also visited the entire group in 1769, reported seeing some remains of former inhabitants. Wrangell (1820-1823) found pit houses on several islands.[17]

It is thus very probable that all the Bear Islands were inhabited by Eskimo, but we have no definite data at present that would justify us in pushing the westernmost limit of Eskimo culture beyond Chetyrekhstolbovyi Island.

It is true that pit houses were also reported on the New Siberian Islands in 1809, and a bone sled, flint scraper and mammoth tusk axe were brought back,[18] but again we know too little about the remains to classify them definitely as Eskimo, although it is quite possible. Around the mouth of the Indigirka River Wrangell noted numerous traces of "earth huts";[19] however, this is Yukagir territory, and Jochelson believes that the ancient Yukagir dwelling was also semi-subterranean.[20] The question of a still further extension of Eskimo culture to the west will thus have to remain open pending further investigation.

Cape Baranov (approximately seventy kilometers east of the Kolyma River mouth).

Okladnikov in 1946 excavated at two points on the cape, which he named "Sarychev Cove" and "Vtoroi Cove." Only a preliminary notice of this work has appeared,[21] except for the harpoons, which have been published in great detail.[22]

Sarychev Cove: The site consisted of five semi-subterranean dwellings of wooden post and earth construction. One, with its entrance passage and two lean-to storehouses, exceeded one hundred square meters in area. Two of the houses (Nos. 1 and 5) were excavated, revealing hundreds of specimens as well as great quantities of seal and walrus bones and some of whales. Ceramic remains indicated large, heavy pots, very thick-walled, with round bottoms; decoration consisted of wide streaks.[23] There were polished slate knives, both men's and

17 Wrangell, 1844, pp. 154, 462, 464, 466; Okladnikov, 1947, p. 181.

18 Zolotarev, 1938.

19 Wrangell, 1844, pp. 181, 228.

20 Jochelson, 1926, p. 348. Yukagir were found living in semi-subterranean houses near the Yana River in 1639 (Wrangell, 1844, p. 391).

21 Okladnikov, 1947.

22 Beregovaia, 1953.

23 Tolstoy (1953, p. 30) terms this ware "definitely striated."

women's (ulo), stone and bone adzes or axes with heavy wooden handles, two bone handles with metal insets, a harpoon foreshaft, stone tips for harpoons (4 polished slate, 1 chipped), and one large barbed harpoon head. An interesting set of toys was discovered: bow and arrows, dishes, kayak and paddle, and a humming top. No less than twenty-five toggle harpoon heads were unearthed. Of these, two are classified as Thule and one Punuk. The remainder are very homogeneous and most closely resemble Point Barrow Birnirk, differing only in having a simple basal spur. Beregovaia subdivides them into a Type 1 with two side blades (fig. 1[23a]), and Type 2 with only one (fig. 2). Eleven of each type were found.

Vtoroi Cove: One house was excavated at this site. The general appearance of the finds is described as more archaic than at Sarychev Cove. Besides a figure of a polar bear carved from walrus ivory, the only specimens reported are toggle harpoon heads, of which there were four. One of these is classified as Birnirk, and two as Old Bering Sea; the decoration on one of the latter is reminiscent of Uelen-Okvik (fig. 3). The fourth harpoon is regarded as atypical but "of very ancient appearance," with certain features recalling Dorset and Ipiutak.[24] It is regarded as significant that two of the harpoons are made of fossil mammoth ivory, a material not employed at the other site. There is the possibility that Vtoroi Cove might prove to be the oldest site yet known on the arctic coast, but any such conclusion will have to await a study of the entire inventory of the site.

On a typological basis, the Birnirk harpoons from Cape Baranov are believed to be later than those at Point Barrow, with Type 1 probably older than Type 2; the latter is viewed as transitional to Thule. It is thought that the Punuk and Thule harpoons found may be imports, since they were associated with both the Birnirk types in the same house at Sarychev Cove. The Old Bering Sea specimens at Vtoroi Cove could also be of extraneous origin.

Viewing the Cape Baranov sites as a whole, a date of about the end of the first millenium AD is suggested, since the houses are transitional Birnirk-Thule, as is the main artifact complex. The closest parallels are at Chetyrekhstolbovyi Island.

Aion Island (at the mouth of Chaun Gulf [Chaunskaya Guba]).

Sverdrup in 1920 found remains of Eskimo dwellings here similar to those on Chetyrekhstolbovyi Island. Although the ground was too frozen to excavate, he

23a References are to the numbered series of Figs. 1 and 2 of the present paper.

24 Beregovaia, 1953, plate 8:5. The illustration was not clear enough to warrant reproduction in the present paper.

managed to find potsherds, several fragments of stone knives, and bones of reindeer, seal, and birds.[25]

In 1946, personnel of the polar station located on the northwest coast of the island discovered an ancient settlement .7 kilometers east of the station, and forwarded a small collection to the Arctic Institute. Judging from the specimens, which included a large polished slate ulo, a bone spear or dart point, and potsherds, the site is apparently of Thule age.[26]

Shalaurova Island (just eastward of Cape Shelagskii).

Two large house mounds on the shore were noted by Sverdrup in 1925, who describes them as similar to those on Aion and Chetyrekhstolbovyi Islands. Potsherds were scattered about, but no other artifacts were discovered.[27]

Wrangell[28] noted heaps of whale bones on the shores and decided that they were "probably the remains of dwellings." Beregovaia locates these sites on high cliffs on the north and west sides of the island.[29]

Yakan (between Cape Billings and Cape Schmidt).

Wrangell reports that at many places just east of here there are whale bones stuck upright in the ground, which according to the Chukchi are remains of former dwellings of a sedentary tribe. Wrangell comments that they appear to have been substantial habitations, partly sunk in the ground.[30]

Somewhere between Yakan and Cape Schmidt, Nordenskiöld examined mounds of weathered burned bones which had been covered with a layer of turf and twigs and then cased over with flat stones. These were at first regarded as "Chukchi graves," since one human tooth was identified among the bones, but this theory was later abandoned.[31]

Cape Schmidt (otherwise known as North Cape or Cape Irkajpij).

There are two sites here, one high above sea level on the cape itself, the other apparently on the spit connecting the cape with the mainland. The latter settlement, which contained a large number of houses, was dug into by Nordenskiöld's party in 1878. Whale bones had been used in constructing the underground dwell-

25 Sverdrup, 1930, p. 211.
26 Rudenko, 1947b, p. 13
27 Sverdrup, 1930, p. 224.
28 Wrangell, 1844, p. 328.
29 Beregovaia, 1953, p. 421.
30 Wrangell, 1844, p. 345.
31 Nordenskiöld, 1881, p. 437: cross-section drawing.

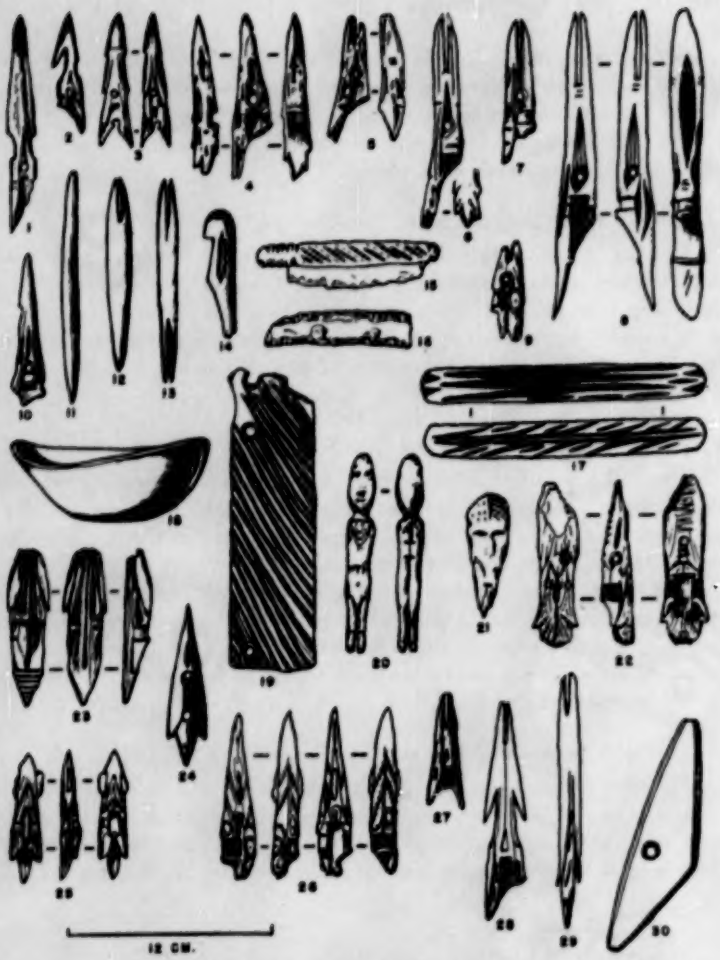

FIG. 1 (nos. 1-30). Archaeological materials from Cape Baranov, Uelen, Cape Dezhnev, and Kivak (after Beregovaia, 1953, and Rudenko, 1947b).

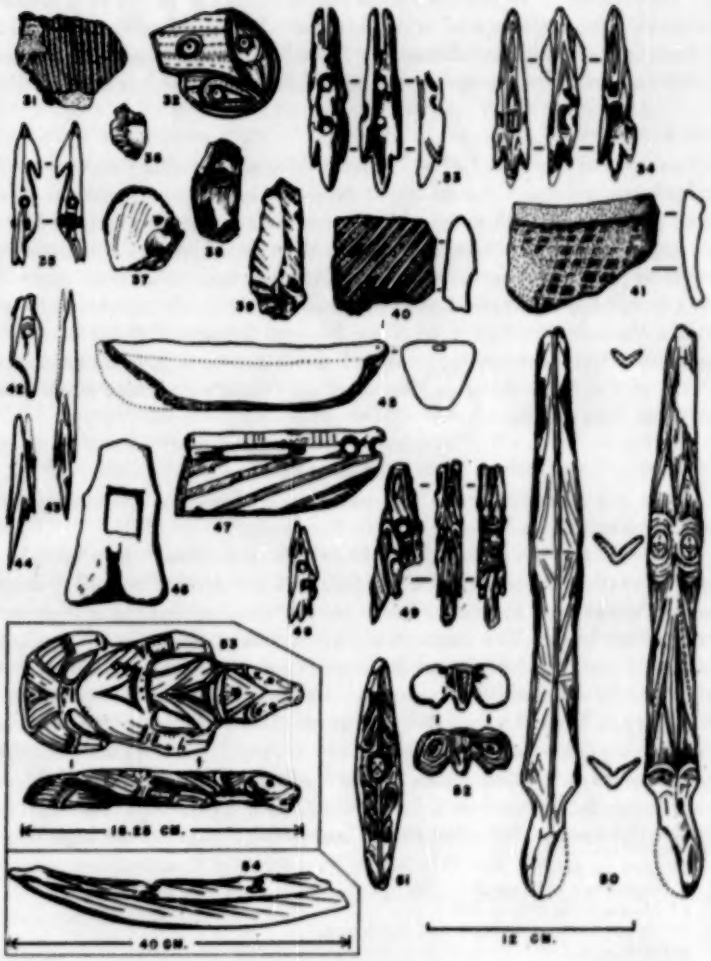

FIG. 2 (nos. 31-54). Archaeological materials from Uelen, Kivak, Ittygran Island, Sirhenik, Nunligran, Enmylen, and undocumented specimens from the Chukchi Peninsula (after Rudenko, 1947b).

ings. Nordenskiöld[32] reproduces a few of the artifacts and two views of a house. The small collection, deposited in the Stockholm Museum, has been itemized by Mathiassen,[33] who labels it "almost pure Thule." In the vicinity of Cape Schmidt, Nordenskiöld noted many circles formed of bear, walrus, and reindeer skulls.[34]

Cape Vankarem

At the tip of this cape, Nelson[35] located three ancient village sites containing similar house remains: a mound with a depression in the center, traces of an entrance passage, and evidence of use of whale bone in the construction. Nelson believed that the three sites were of different age, based on their situations with respect to present and former shore lines. He mentions seeing ivory plates for armor here,[36] and Murdoch refers to two grooved stone mauls collected by Nelson at Cape Vankarem in the United States National Museum.[37] What connection, if any, these specimens may have had with the sites in question is not specified.

Just east of Cape Vankarem, Nordenskiöld[38] observed remains of old dwelling places "here and there."

Uelen (near Cape Dezhnev [East Cape]).

There is a protohistoric site with underground houses on the sandspit near the modern settlement. Rudenko excavated one house.[39]

The main site is on the hillside. Rudenko's excavations[40] here brought to light a very peculiar complex which he feels is clearly distinct from all presently-known Eskimo sites in Siberia. There are no traces of underground or semi-underground houses. The inhabitants were hunters of sea-mammals, including walrus and possibly whale; but at the same time they hunted land animals extensively—chiefly reindeer. Bone arrowpoints are numerous, and are of peculiar and archaic types. Types 1 (fig. 11) and 2 (figs. 12 and 13) are unknown on any other Eskimo site, or anywhere in the American Arctic; Rudenko finds their only parallels to the south (Kamchatka and the Kuriles) and west (Late Neolithic and Early Bronze Age of the central Lena valley). Specifically, Type 2 occurred in a burial with bronze at Bukachan on the Lena which is dated at the beginning of

32 *Idem*, pp. 443-444.
33 Mathiassen, 1927, part 2, p. 179.
34 Nordenskiöld, 1881, p. 446.
35 Nelson, 1899, pp. 265-266, with sketch map.
36 *Idem*, p. 330.
37 Murdoch, 1892, p. 97.
38 Nordenskiöld, 1881, p. 456.
39 Rudenko, 1947b, pp. 24-26, plates 5, 6.
40 *Idem*, pp. 15-24, plates 1-4.

the first millenium BC. The typical Uelen harpoon (figs. 4-8) is a complex and very peculiar type with analogies only at Okvik, although others find parallels at Point Barrow (figs. 9 and 10)[41] and Point Hope. No pottery was found, although a grooved paddle (fig. 19) suggests its possible presence. There is an almost complete absence of polished slate knives—not even an ulo. But there are a great many side-bladed knives (figs. 15-17) which elsewhere are not associated with any known Eskimo culture-complex, making Uelen unique in this respect, according to Rudenko. Among the other interesting finds are a barb for a compound salmon spear whose only parallel is at Okvik (fig. 14), walrus tusk scrapers very typical of Okvik and Old Bering Sea (fig. 18), a carved human figurine (fig. 20) and human head (fig. 21) whose only analogies are at Okvik, and a remarkable carving of a polar bear (fig. 53). The Uelen art style is very singular; hitherto known only on certain objects from Okvik, it was here employed very widely to decorate a great variety of objects. Although several specimens from Uelen are similar in type and decoration to early Old Bering Sea, not one object characteristic of Thule or Punuk was found. Since the same does not hold true for the Okvik site, Rudenko consequently regards Uelen as probably the oldest, or at least one of the oldest, arctic sea-hunting sites known.

Cape Dezhnev (East Cape)

There is an unlocated early site in this area, probably just south of the cape, from which a considerable body of Old Bering Sea style material found its way into the Bettak and Borisov collections. The main part of the Bettak collection was obtained in the settlement of Dezhnevo (formerly Enmitaun), and Rudenko secured a few more specimens from the inhabitants of the same place. This body of material is described and illustrated as a unit by Rudenko.[42] Every type of harpoon known from St Lawrence Island is represented in this collection, in addition to some regarded as older than Old Bering Sea. A few of the more interesting specimens are reproduced here. Figures 22 and 23 are described as "unusual type harpoons—evidently very ancient"; figures 24 and 25 are Old Bering Sea types; figure 26 is Birnirk; figure 27, "somewhat unique," finds its only analogy in Rasmussen's collection;[43] figure 28 is a rare type of Punuk.

According to Rainey,[44] there are harpoon heads decorated in Okvik style in

41 Figure 9 is described as somewhat atypical, being a Birnirk form with an Old Bering Sea ornamentation.

42 Rudenko, 1947b, pp. 27-30, plates 7-9.

43 Mathiassen, 1930, plate 18:6.

44 Rainey, 1940, p. 564.

the American Museum of Natural History which were collected by Bogoras at Cape Dezhnev.

Other scattered specimens from this locality include the winged object in the National Museum, Copenhagen, published by Mathiassen;[45] and an ivory paddle and whip handle in the University Museum, Philadelphia, whose provenience, however, is open to question.[46] The paddle is said to be very similar to one from Point Barrow illustrated by De Laguna.[47]

Naukan (just south of Cape Dezhnev).

In 1924 Rasmussen, during his brief visit here, obtained from a local Eskimo a collection of 168 objects. A preliminary description of this collection was published in 1927 by Mathiassen,[48] and a somewhat fuller study in 1930.[49] The objects, according to Mathiassen, are predominantly Thule. Of particular interest are three labrets, not otherwise known for the Siberian Eskimo.

Rudenko carried out a small excavation at the school in the settlement, finding a midden deposit one meter deep. The material recovered proved to be all late Punuk or protohistoric, like the similar site at Uelen.[50]

Big Diomede (Ratmanov) Island

Rudenko apparently visited Big Diomede but for some strange reason gives no account of it. He mentions seeing Old Bering Sea houses there,[51] and illustrates a polished slate men's knife of laurel-leaf form with wide tang, set in a bone handle, "from our excavations on Ratmanov Island,"[52] but there is no further reference.

A blubber-hook decorated in Old Bering Sea style in the National Museum, Copenhagen, is illustrated by Mathiassen.[53]

It is probably justifiable to assume that the archaeology of Big Diomede Island would be very similar to that of Little Diomede.

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45 Mathiassen, 1929, fig. 18c.
46 Personal communication from Froelich Rainey and J. Alden Mason.
47 De Laguna, 1940, plate 1:1.
48 Mathiassen, 1927, part 2, pp. 177-179 (including illustrations of 28 objects).
49 Mathiassen, 1930, pp. 72-78 (the same plate is reprinted, with additional illustrations of 17 objects).
50 Rudenko, 1947b, pp. 27, 30-33, plates 10, 11.
51 *Idem*, p. 70.
52 *Idem*, p. 65; plate 37:11.
53 Mathiassen, 1929, fig. 17b.

Puoten Bay (southwest of Cape Dezhnev, approximately midway between Naukan and Yandigai).

There is a very large cemetery on the mountain side, estimated to contain about a thousand burials; these range from covered stone graves of the prehistoric Eskimo to recent open graves, some of which at least are Chukchi. There is also an old village of log and whale-bone houses on the spit fronting the lagoon; this is being eroded by the sea, but still contained some twenty-two structures in 1922. In that year the Puoten Bay sites were dug into by Joseph Bernard, a sea captain of Nome, from whom the collection was subsequently purchased by the Washington State Museum, where it is catalogued under Nos. 9901-10239. Thirty-three graves are represented in this collection, which includes specimens with design elements reminiscent of Old Bering Sea.[54]

Some information on this Puoten Bay material, and a few illustrations, have been published by De Laguna. According to the latter, Birnirk-type pottery is well represented, also modern, and another ware presumably intermediate in age. Pottery lamps are mentioned, also two of stone.[55]

Yandigai

In the modern Maritime Chukchi settlement here are the remains of an old village of semi-subterranean houses and storage pits. Midden deposits reach a depth of four meters. Rudenko tested the site very briefly. Judging by the few finds, it is very late—probably terminal Punuk and later.[56]

Arakamchechen Island (large island north of Cape Chaplina).

A settlement of large square semi-subterranean houses of whale-bone construction with passages was tested at a few points by Rudenko. Everything indicates late Punuk. South and southwest of this are two other very recent sites.[57]

Ittygran Island (southwest of Arakamchechen).

A bone atlatl decorated in Old Bering Sea style 1 (fig. 50) is reported to have come from Chekhliuk village on this island.[58]

54 Information from Curator Douglas Osborne.
55 De Laguna, 1940, p. 64, plates I:8, II:1, 2; fig. 6:4, 5, 6; 1947, pp. 234-235.
56 Rudenko, 1947b, p. 33, plate 12:1-7, 10-13.
57 *Idem*, pp. 34-35, plate 12:8, 9, 14-28.
58 *Idem*, plate 38:21.

Cape Chaplina (Indian Point)

Rudenko[59] located two sites in the immediate vicinity of the cape, both with whale-bone houses and storage pits. One had a midden 1.5 to 2.5 meters deep into which Rudenko sank two test pits. The material recovered proved to be late Punuk.[60] A house was cleared at the other site, revealing burials. It was dated as mid-nineteenth century.[61] Rudenko searched in vain for an ancient site in this locality, the likelihood of one being suggested by the close ties traditionally existing between the St Lawrence Island Eskimo and Cape Chaplina, the nearest point on the mainland, as well as by the harpoons with Okvik ornamentation which, according to Rainey,[62] were collected here by Bogoras and are now in the American Museum of Natural History. Rudenko is of the opinion that an ancient site may have formerly existed which has been destroyed by the sea, since the shore at this point is being rapidly eroded.

Kivak

At the edge of this southernmost modern Eskimo settlement Rudenko found two square whale-bone houses, 8 × 8 and 9 × 9 meters, with entrance passages 10 × 1.5 meters; also two storage pits and a midden deposit two meters deep. One house and one pit were tested. The house yielded interesting material dating the site as Old Bering Sea.[63] Illustrated here are an arrowpoint of a type confined to Okvik and Old Bering Sea (fig. 29); a peculiar form of knife obtained from local Eskimos, and presumably from the site (fig. 30); a potsherd (fig. 31); and a fragment of a winged object (fig. 32).

Cape Chukotskii (between Kivak and Providence Bay).

Two sites immediately west of the cape were tested by Rudenko.[64] The first, consisting of nine small houses and a larger central one, connected by passageways, with a midden at least 1.5 meters deep, was judged to be possibly Old Bering Sea in age, although the finds were too scanty to draw definite conclusions.[65] The second, with a midden 1 to 1.5 meters deep and (judging from the sketch map) house remains, is probably Punuk.[66]

59 *Idem*, pp. 35-39.
60 *Idem*, plates 13:1-19, 21-24; 14, 15, 16:1-10, 12, 13, 15-17, 19, 20.
61 *Idem*, plates 13:20, 25; 16:11, 14, 18.
62 Rainey, 1940, p. 564.
63 Rudenko, 1947b, pp. 39-41, plate 17:1-16, 19-21, 23-25, 28.
64 *Idem*, pp. 41-42.
65 *Idem*, plate 17:17, 18, 22, 29.
66 *Idem*, plate 17:26, 27.

A short distance west of the cape, on the spit between Lake Istikhetskoe and the sea, is the abandoned Eskimo village of Avan'. Rudenko sank a test pit by one of the houses, which confirmed its recency. Nearby, on the edge of the sea cliff, are remains of older houses and pits, with a midden deposit 2 to 2.5 meters deep. A test pit in the latter yielded little of diagnostic value, but the site seems to be Punuk, probably very late.[67]

Bogoras illustrates two objects from Avan', which he calls Eunmun. They are probably from the older house sites. One is a bone prong for a bird dart, the other a barbed lance or harpoon head.[68]

Plover Bay (on Providence Bay).

Collins[69] illustrates a probably Old Bering Sea harpoon head from here, but Rudenko searched in vain for an old site, and is of the opinion that the specimen originated elsewhere and was merely obtained from the natives at Plover Bay. On the sandspit at the southwest edge of the bay are many houses and pits grouped into two sites. The southeastern one is possibly protohistoric; the northwestern one is very recent.[70]

Sirhenik (approximately midway between Providence Bay and Nunligran).

There are three sites near the modern village of Sirhenik. The northern one (not investigated) is believed to be the most recent; the central one, on the basis of the material recovered, is Punuk; the western one (four houses) is Old Bering Sea. The midden deposit reaches a depth of four meters in places. East of the Old Bering Sea houses the midden is stratified: Old Bering Sea on the bottom, overlain by early Punuk, then mature Punuk. The western end of the midden is pure Old Bering Sea. Rudenko carried out his most extensive excavations here,[71] obtaining over 1100 specimens from this rich and important site. He believes it was occupied uninterruptedly from Old Bering Sea times to the present day. Since most of the excavating was done in the Punuk section, the bulk of the material recovered is of this period. The finds are all lumped together in Rudenko's report, and only typologically important objects are documented.

The Old Bering Sea deposits yielded an abundance of chipped implements (figs. 36-39) and none that were polished. There were many potsherds, mostly with streaked (linear stamp) or check-stamped decoration (figs. 40 and 41); also

67 *Idem*, pp. 42-43, plate 18:1-5, 10-12, 14-24 (the illustrations are all of the Punuk site).
68 Bogoras, 1904-1909, figs. 33e, 57.
69 Collins, 1929, fig. 1.
70 Rudenko, 1947b, p. 43, plate 18:6-9, 13.
71 *Idem*, pp. 43-55, plates 19-30.

plain sherds showing traces of smoothing with grass. The vast majority of vessels were large crudely-made pots with convex bottoms, usually thick-walled (1 to 1.5 cm, with rims up to 2 cm). Temper consisted of sand, pea-sized gravel, plant fibers, or hair. The paste was black, and the ware was poorly fired. The check-stamped pots differed somewhat, being large (up to 40 cm) but comparatively thin—averaging 8 to 9 mm in thickness, and exceeding 1 cm only on the rim. The checks are large (5 to 10 mm on a side) and square or rhombic in shape. Among the harpoon heads found is an Old Bering Sea type which Rudenko suspects is more ancient than Collins' Type 1 (fig. 33); another Old Bering Sea type for which there is no complete analogy (fig. 34); and a Birnirk type (fig. 35). Also of interest is a light sled runner of walrus tusk (fig. 54).

Sirhenik is the Wuteen village of Bogoras, who illustrates a number of objects found on old house sites here: a double-edged slate knife, two ulos (slate and obsidian), bone prongs from a fish spear and bird dart (neither implement being then still used in the area), two stone harpoon tips, and four bone or antler harpoon heads.[72]

Nunligran

There are two sites along a stream midway between the Chukchi (formerly Eskimo) village of Nunligran and the Glavsemorput (Northern Sea Route Administration) factory to the north of it.

Western site: fifteen houses. A small excavation was carried out by Rudenko.[73] Very late Punuk.

Eastern site: more obliterated. Most of the artifacts recovered in the small excavation had a very ancient appearance, but not one was ornamented in Old Bering Sea style. There was a considerable quantity of unpolished stone, and only two polished slate artifacts. Potsherds are mentioned but not described. We illustrate here a harpoon described as possibly Okvik and at least early Punuk (fig. 42); two arrowpoints of Okvik-Old Bering Sea type (figs. 43 and 44); a walrus tusk dish (fig. 45) found elsewhere only at Uelen; an antler haft for an adze (fig. 46) identical with Uelen; and a sled runner (fig. 47) typical of the oldest stages of Eskimo culture. Rudenko is of the opinion that the site is contemporary with Uelen.[74]

72 Bogoras, 1904-1909, figs. 135, 141, 66, 57, 31, 33:a-d.
73 Rudenko, 1947b, pp. 55-57, plate 31.
74 *Idem*, pp. 57-59, plate 32.

Enmylen (at Cape Bering).

Rudenko's expedition found three groups of dwellings: (1) the modern Chukchi (formerly Eskimo) settlement; (2) a comparatively recent settlement to the west; and (3) an older site in between, at which Rudenko's assistant did some excavating, clearing 10 square meters of midden 40 to 45 cm deep. There were remains of about twenty houses, in groups, evidently interconnected, with one large structure. The collection (which includes objects obtained locally and material in the Borisov collection) is heterogeneous, including, early, full, and late Old Bering Sea material, early and classic Punuk, and late protohistoric. There is a considerable amount of unpolished stone. Rudenko feels that this is an important site that needs further excavation; at present he can only suggest that the area has been continuously occupied from an early date.[75] Selected for illustration here are two harpoon heads, one of a probably ancient type, similar to certain ones at Uelen (fig. 48); and one of Old Bering Sea type (fig. 49).

Chukchi Peninsula

Under this heading we will consider undocumented specimens from the coasts of the Chukchi Peninsula, and some general observations pertaining to the area or large segments thereof.

The Borisov collection, which as we have previously noted was obtained at various points between Cape Serdtse Kamen on the Arctic Ocean and Cape Bering, is described and illustrated as a unit by Rudenko,[76] except for such items as are sufficiently well documented to be included under specific sites. From this we reproduce here a model kayak in Old Bering Sea style (fig. 51), and a winged object in early Old Bering Sea style (fig. 52).

De Laguna[77] illustrates two stone lamps from the Washington State Museum of Canadian Thule type—probably modern copies. Also in this museum is a rather small vessel shaped like a goldfish bowl—the only pot of this globular shape from the Arctic known to De Laguna.[78]

Sverdrup[79] illustrates three harpoon heads, a bone spear point, and a comb decorated in Old Bering Sea style from ruined houses "near Bering Strait." Two of the harpoons are splendid Old Bering Sea specimens.

75 *Idem*, pp. 59-63, plates 33-35.
76 *Idem*, pp. 63-67, plates 36-38.
77 De Laguna, 1940, p. 64, fig. 5:5, 6.
78 De Laguna, 1947, p. 248.
79 Sverdrup, 1930, plate xxv.

In the United States National Museum is a human figure carved from fossil ivory "from the northeastern Asiatic coast," which has been illustrated by Hrdlička.[80]

There is evidence of an abundance of ancient sites along the shores of the Chukchi Peninsula in addition to the few that I have been able to locate definitely in the foregoing catalogue. Sverdrup, who made a sled journey around the coast from Aion Island to Cape Bering, found the remains of ruined houses all the way.[81] Wrangell wrote that everywhere along the coast from Cape Shelagskii to Bering Strait are remains of huts constructed of earth and whale bones.[82] According to Bogoras, there were ruins of the so-called "jaw-bone" houses in every Chukchi or Eskimo village that he visited on the Pacific coast.[83] And most recently we have Rudenko's statement that there are remains of underground houses everywhere along the coast from Cape Dezhnev to Cape Bering; and that such remains are also known in the western and southern part of Anadyr Gulf.[84] The latter statement is of particular interest, since it is the first evidence we have had of the existence of sites on Anadyr Gulf, and of the probable extension of Eskimo culture into this area in former times.

Omaian Zaliv (Omayan Bay)

Described as being south of Anadyr Gulf. It is not listed in the Sailing Directions for the area, and I have been unable to locate it on any map.

A cave on this bay was explored in 1930 by A. K. Vernarder; the collection is in the Vladivostok Museum, where it was seen by Rudenko.[85] The latter refers to the objects as "very interesting," and as more typical of the culture of the coastal peoples of Bering Sea than of the Neolithic of Kamchatka—for which reason I have decided to include the site in the present catalogue. Unfortunately, Rudenko gives us no further information, although he does illustrate four bone arrowpoints of different types from this cave.[86]

GENERAL DISCUSSION

No workshop site has yet been found in the Siberian Eskimo area, and no signs of such activity at the village sites. There is a single undocumented prismatic core in the Borisov collection, but neither prismatic cores nor narrow lamellar

80 Hrdlička, 1930, plate 26.
81 Sverdrup, 1930, pp. 237-238.
82 Wrangell, 1844, p. 357.
83 Bogoras, 1904-1909, pp. 180-181.
84 Rudenko, 1947b, p. 70.
85 Rudenko, 1948, p. 155.
86 *Idem*, plate 3:20, 22, 26, 41.

flakes have yet been found on an Eskimo site. Nor have typical burins comparable to those of the Upper Palaeolithic of western Europe, although there are rare finds of tools which could serve as burins.[87]

Pottery, with rare exceptions, is common at all the Eskimo sites, especially the latest ones. It was lacking only at Uelen, but this may be due to the small scale of the excavations. In general it is of poor quality, with no improvement from stage to stage. All sherds are black both on the surface and in fracture, regardless of age. Firing is so poor that vegetable matter carbonized but was not consumed. The great majority of vessels were thick-walled—a centimeter or more. Tempering is chiefly sand or very fine gravel. There was admixture of hair or baleen fibers at Kivak and in the oldest levels at Sirhenik; sherds of this sort are usually thinner and exhibit a slight layering. Grass stems were also employed. Gravel is never combined with organic temper. Vessels were modelled directly from a lump of clay, although the finer layered ones may have been coiled. Rudenko found no entire specimens, but judging from the sherds the vessels were mostly large, occasionally 30 to 35 cm in rim diameter. He concludes that the bottoms were round, since no pronounced flat bottoms were noted. Vessels of later periods often had applied exterior lugs; these are lacking on ancient sites. Surfaces were smoothed but not polished; the lugged vessels have a completely plain surface. The bulk of the specimens are undecorated, but sherds with shallow parallel lines—evidently applied during manufacture by means of a grooved paddle (fig. 19)—are sometimes found on the oldest sites.[88]

The check-stamp pottery found at Sirhenik has already been described in connection with that site.

Rudenko found nothing identifiable as a pottery lamp in the older sites, and not a single stone lamp of any sort.[89]

Armor plates—all of bone—were found exclusively in late Punuk or protohistoric sites. Objects connected with dog traction confirmed the late date of its introduction deduced by Collins on St Lawrence Island.[90]

While neither metal tools nor handles suggestive of them were found in the oldest stages, the use of metal at this period is felt to be quite probable.

Of particular interest is the close similarity between the bone arrowpoints at Uelen and those from a Bronze Age burial on the Lena River, which opens the possibility of cross-dating between the Baikal Neolithic sequence (backbone of all chronology in eastern Siberia) and the carbon-dated remains at Bering Strait.

87 Rudenko, 1947b, pp. 65, 87, 89; plate 24:18, 19.
88 *Idem*, pp. 92-93.
89 *Idem*, p. 93.
90 *Idem*, pp. 94, 96.

SUMMARY

By way of summary, we may say that the material available to us indicates that all the stages of development of the Bering Sea Eskimo cultural complex are represented on the Asiatic mainland, and that the entire region on both sides of the strait has constituted a single culture area from very early times. However, the culture hearth seems to have centered on the Asiatic side in the oldest periods—especially if we include St Lawrence Island as a part of Asia, which it is geographically and evidently has always been culturally as well. Okvik is established as the earliest known Eskimo stage in Asia, and since in Rudenko's opinion it is represented more fully and in purer form at Uelen, he feels justified in renaming the stage "Uelen-Okvik."

In this earliest period there is no trace of semi-subterranean dwellings or storage pits. Hunting of land animals played a large role in the economy, but the elaborate harpoon complex of a fully-developed sea-hunting culture was the dominant theme. Stone tools are almost exclusively chipped, and polished slate is very rare. Slotted bone artifacts with stone side blades—mainly knives and harpoons—are very typical. Also present are hunting sleds with walrus-tusk runners, and the fire drill. The art style is very original and unusual, featuring deeply-engraved linear decoration. The Uelen site is viewed as representing an early phase of the stage, and on the basis of parallels with the Lena valley was tentatively dated around 1000 BC by Rudenko. Birnirk he views as a later phase of Uelen-Okvik, and a date of 500 BC–1 AD is suggested. Early Uelen-Okvik remains occur along the southeast coast of the Chukchi Peninsula from Uelen to Nunligran. Birnirk finds occur from Puoten Bay (just south of Cape Dezhnev) to the Bear Islands, suggesting that the arctic coast was first settled in this period.

The succeeding Old Bering Sea stage is thought to have resulted from the impact of southern cultural influences. Sea hunting was here the main subsistence, and there was a marked decline in land hunting, judging from the animal remains and artifacts. Practically all bone artifacts are of walrus ivory. There is little change in the harpoon types, but the atlatl makes its first appearance. Although chipped stone still predominates, a considerable quantity of polished stone is now found. Stone side blades, with rare exceptions, occur only in harpoons. There are now two types of sled with walrus-tusk runners: a light hunting sled and a heavy freight sled. Sites of the Old Bering Sea stage are distributed in Asia from Cape Dezhnev to Cape Bering, with scattered finds west along the arctic coast to Cape Baranov. Rudenko views the stage as contemporary with Birnirk.

The first close relationships with the interior peoples of northeast Asia, oc-

curring in the 3rd and 4th centuries AD, are thought to have given rise to the Punuk stage. Sites of this period are also distributed along the southeast coast from Cape Dezhnev to Cape Bering. On the arctic coast, however, the sporadic finds west to the Bear Islands suggest Thule rather than Punuk.

Thus we have on the southeast coast of the Chuckchi Peninsula a Uelen-Okvik, Old Bering Sea, Punuk sequence—the latter merging into protohistoric Eskimo; and on the arctic coast, late Birnirk followed by Thule. The latter persisted (on the Bear Islands at least) until the contact period. Elsewhere on the arctic shore the situation is still obscure, but suggests displacement of the former Eskimo population by the Chukchi.

The question naturally arises as to why Eskimo culture in Asia was confined to such a limited area, in contrast to its phenomenal expansion over arctic America. The development and long efflorescence of this culture in the Bering Sea region is explicable largely in terms of the concentrated abundance of sea mammals at this particular spot, especially of walrus. And the geographical distribution of these and other sea mammals is the basis for the settlement pattern of the ancient and modern sea hunters. Rudenko presents data[91] on the modern catch of these animals which show that the Bering and Chukchi Seas (i.e. precisely the area where Eskimo remains are found) yield virtually the entire haul—a condition which we may assume held in aboriginal times as well. Even more determining factors for primitive hunters operating from shore are such things as the routes of walrus migration, location of rookeries, and distance of floating ice from the coast. All these, when plotted, explain the concentration of settlement in such a limited area of coastline immediately south (and probably to some extent also north) of Bering Strait. Conditions for sea mammal hunting elsewhere in Asia were decidedly inferior, and only extreme need would drive people to settle farther west along the arctic coast—and then only in limited numbers. It will not be at all surprising if no remains of Eskimo culture turn up west of the mouth of the Kolyma.[92] Everything, in fact, points to the conclusion that all movements of sea hunters in Asia were from east to west, from a center in the Bering Sea area, rather than in the opposite direction as most hypotheses seem to postulate. In a broad sense, one could say that Eskimo remains tend to become younger as one proceeds farther west along the arctic shore.

91 *Idem*, pp. 112-113.

92 In this connection I should like to resurrect a statement of Bogoras' that has been curiously ignored or overlooked for the past twenty-five years, though readily accessible: namely, that the arctic coast of Siberia between (roughly) the Kolyma and the Ob is unsuited for sea mammal hunting and of little use to humans, in contrast to the American Arctic (Bogoras, 1929, p. 580).

ORIGIN OF THE ESKIMO

Since the theories of Eskimo origins currently held in the Soviet Union differ considerably from those advanced by American and west European scholars, it will be of interest to consider them briefly.

In 1937, Zolotarev[93] advanced a hypothesis based largely on the formulations of Hatt and Birket-Smith, deriving ancient Eskimo culture from a specialized Neolithic culture of "winter fishers" in interior Asia and America. Since then a vast amount of archaeological work has been done in the interior of Siberia which, coupled with new studies in historical ethnography and physical anthropology, have shown that no basis whatever exists for Zolotarev's hypothesis—or, we may as well add, for the "Ice-Hunting" vs. "Snowshoe" approach of Hatt and Birket-Smith.[94]

The evidence suggests, on the contrary, that during the Siberian Neolithic a whole series of distinctive regional cultures existed under different geographical conditions, each of which is presumed to have corresponded to a definite ethnic group. As far back as 1941, Okladnikov[95] felt able to distinguish the following groups: (1) steppe hunters (and subsequent cattle-breeders); (2) forest hunters of the Baikal region; (3) fishers of the Urals; (4) fishers of the Amur and Pacific coast of Siberia, who were linked with the cultures of the Pacific Islands [presumably meaning the Japanese-Philippine arc] and southeast Asia. Distinguishing features of the latter group are given as: (a) fishing, not hunting, as the main occupation; (b) sedentary life: permanent settlements with large semi-subterranean dwellings, as opposed to the light tipi of the Baikal hunters; (c) flat-bottomed, rather than pointed base, pottery; (d) basically different art style: surprisingly rich curvilinear ornament related to Ainu and Maori on the one hand, and Yang-shao and Jomon on the other. It is this Pacific Ocean zone in a broad sense which is, in Okladnikov's opinion, the homeland of the ancient Eskimo culture, and from which its most important elements derive.

There is no tendency in the Soviet Union to evolve Eskimo culture from the Palaeolithic, despite the finds at the remarkable Upper Palaeolithic site of Buret' on the Angara River which revealed so many similarities to Eskimo life and culture. These latter are dismissed as a case of convergence resulting from similar environmental conditions. It was in this connection that Okladnikov issued his most definite statement on Eskimo origins, which we will quote in full:

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93 Zolotarev, 1937.

94 This matter is discussed in more detail in Chard, n.d. (a).

95 Okladnikov, 1941a.

In its origin the ancient Eskimo culture is linked not with the west but with the southeast, and not with the Palaeolithic but with the Neolithic. It represents only the northernmost link in a Pacific Ocean coastal culture belonging to sedentary tribes whose chief occupation was fishing in conjunction with sea mammal hunting. The basic elements of the ancient Eskimo culture were distributed very widely in the Pacific Ocean zone, e.g. (1) sea-hunting and fishing economy; (2) corresponding specific inventory in the form of toggle harpoons with . . . spurs at the base, also the peculiar slate points which are unknown in Siberia and, in general, north of the Amur and the Great Wall; (3) permanent settlements with earth huts as the basic type of dwelling; (4) spiral or curvilinear ornament; (5) cult of female god-ancestors and associated totemistic ideas about marriage of a goddess and a dog. These elements are known from very early times in Kamchatka, the Kuriles, the Japanese Islands (ancient Ainu culture), on the Amur, in South China, and to some extent even farther south, in the Philippines and New Zealand.[96]

But greatest interest will naturally attach to the views reached by Rudenko after his study of the Eskimo sites on the Chukchi Peninsula.[97] In approaching the problem of origins, the crucial traits to be examined are, in his opinion, inset-bladed artifacts, the harpoon and skin boat complex, and art styles.

Inset blades have been used as a major argument for linking Eskimo culture with the Mesolithic, or with the early Neolithic periods in the Baikal area. Rudenko, however, sees these artifacts as an independent development in the Eskimo area, like the similar situation in Australia, and denies the existence of any genetic relationship with the Meso-Neolithic of Eurasia. He argues that the blades of the latter were, in the vast majority of cases, long, narrow, thin flint flakes struck from prismatic cores, often with no traces of supplementary working. Even in the case of trapezoidal or other geometric forms the cutting edge is generally not retouched. Eskimo side blades, on the other hand, have a different form and technique of manufacture. There are no long, narrow flakes; the usual form is like an almond-shaped arrowpoint. In every case, the blades are completely retouched. Where blades are set in rows, a separate socket is cut to fit each one, in contrast to the single continuous groove in comparable Meso-Neolithic artifacts of Eurasia.

I will leave it to the reader to decide the merits of this argument, merely remarking that all the considerable number of inset blades known to me from the Neolithic of the Lena valley and the Baikal region have a retouched edge, while the great majority are worked over the entire surface.

Without the toggle harpoon, a sea-hunting culture could not have existed on the shores of Bering Sea, Rudenko maintains. (He seems to have overlooked the

96 Okladnikov, 1941b, pp. 30-31 (my translation).
97 Rudenko, 1947b, pp. 109-113.

Aleut, who made little use of it.) Rudenko therefore attaches the greatest importance to the ancestry of this vital device, and seeks this through an inquiry into its distribution outside the Eskimo region. Toggle harpoons occur in considerable numbers in the middens of the Kurile and Japanese Islands. Though many are of simple form, triple-spurred heads like those of the Old Bering Sea culture occur. Others are very reminiscent of Uelen in form and decoration. Pointing out that the oldest harpoon heads in the Bering Sea area are the most complex, Rudenko finds it very significant that the oldest harpoons to the south have an equally complex form. He also notes that the Philippine Negritos used iron toggle harpoon heads until recent times. Turning westward in search of further parallels, Rudenko is sharply critical of Gjessing's circumpolar distribution map[98] which indicates the presence of "Eskimo harpoons" along the entire arctic coast of Eurasia from the White Sea to the Kolyma. He states flatly that "in North Asia west of the Kolyma not a single find of a toggle harpoon head is known at present, and no traces of Eskimo culture in general."[99] Dismissing the oft-cited remains on the Yamal Peninsula at the mouth of the Ob River, he remarks that not a single object typical of Eskimo culture was found—least of all toggle harpoons. The same verdict is rendered on Olenii Island in Kola Gulf (near Murmansk): "the bone splinters with circular holes from Shmidt's excavations . . . have nothing in common with toggle harpoon heads."[100] As for the Scandinavian toggle heads, they are simple in form and evidently of late origin, in Rudenko's opinion. At any rate, they "have little in common with the Eskimo heads, and cannot elucidate to any extent the problem of the origin of Eskimo harpoons."[101] Thus it is the island chain bordering the east Asiatic coast, a region of well-developed navigation with a harpoon complex "from time immemorial" to which we must look for the solution of our problem.

The latter statement may well be correct, but we should emphasize that it is a topic for the future which cannot possibly be resolved on the basis of existing data. The Japanese harpoon heads are as yet poorly dated where they are dated at all, and many may prove to be relatively recent. Certainly the material from the Kuriles is of no antiquity, as the writer's own studies have shown.[102] Rudenko's criticism of Gjessing is well justified, and I think it very unlikely that the immediate ancestors of the Bering Sea harpoons will be found in the west.

Turning to art styles, Rudenko finds that the elements of the Uelen orna-

98 Gjessing, 1944, p. 17.
99 Rudenko, 1947b, p. 111 (my translation).
100 *Idem* (my translation).
101 *Idem* (my translation).
102 Chard, n.d. (b).

mental style are at present known outside of Eskimo territory only on ancient harpoon heads from the Japanese Islands. The elaborate later Old Bering Sea styles 2 and 3 could not possibly be derived from Uelen-Okvik; they resemble far more the curvilinear ornament of insular Neolithic ceramics and Oceanic decorative art. It is quite possible, he feels, that these styles came into the Bering Sea region with a wave of settlement from the south that also brought new types of toggle harpoons and a series of other cultural elements. "Thus the history of Eskimo art also leads us to southern sources, and not to ancient links with the west."[103]

Considering the amount of archaeological material now available from the interior of Siberia, specific parallels with the earlier Bering Sea cultures are remarkably few. We have noted the bone arrowpoints at Uelen, indicating that some contacts with the interior existed at that early time. The check-stamp pottery at Sirhenik can also be matched in the Lena valley as well as on the Pacific coast of Asia. "But fundamentally the more specific links were with the south—with some cultural center as yet unclear to us, whose northernmost outpost was Uelen. The links with the south are even more marked in the subsequent Old Bering Sea stage."[104] Close contact with the interior peoples arose only in the Punuk stage.

All data available at present point to the movement of Eskimo culture from east to west along the arctic coast of Siberia.[105]

Rudenko's concluding hypothesis sees the sea-hunting Eskimo appearing in the Bering Sea region at a comparatively late date from the south—from insular southeast Asia—and forming an alien wedge which split apart the kindred population of northeast Asia and North America.

In further support of this view, Rudenko criticizes the prevalent Western tendency to derive the ancestors of the Eskimo from interior Siberia. "It is interesting," he writes, "that not one of the foreign authors who occupy themselves with Eskimo prehistory has to any extent elucidated the problem of transforming interior hunters into sea mammal hunters of the open ocean—and under polar conditions besides."[106] The umiak and kayak were in use at the earliest stage of Eskimo culture known to us, and the people were undoubtedly already expert seamen. Where, he asks, could their ancestors have perfected their seamanship and mastered hunting under maritime conditions? In the rivers of Siberia, as Western

103 Rudenko, 1947b, p. 112 (my translation).
104 *Idem* (my translation).
105 *Ibid.*
106 *Idem*, p. 111 (my translation).

theorists seemingly assume? Or in an area where seafaring and sea hunting had a high development and probably a respectable antiquity?

This point is very well taken, whatever one may think of Rudenko's own hypotheses, and I should like to see some of my American colleagues accept the challenge.

Some comment on the "Rudenko Theory" is obviously in order. M. G. Levin, reviewing Rudenko's monograph, remarks very sensibly that "the problem of the origin of the Eskimos is not solved by establishing the existence of these southern elements in ancient Eskimo culture."[107] He goes on to point out that if Rudenko is correct in denying any direct link between the Bering Sea cultures and the maritime culture of the Yamal Peninsula in northwestern Siberia, then we must admit that the latter managed to evolve without contact with the southern seafarers; and why not admit the same possibility in the Bering Sea? Levin is here assuming that a comparable seafaring culture existed on Yamal, something that I do not feel has been convincingly demonstrated. Furthermore, Yamal is not too far removed from the maritime cultures of the White Sea and Finnmark, from which any necessary stimulus could quite reasonably have emanated.

However, Rudenko's assumption of the bodily migration of an alien ethnic group into the Bering Sea region at such a comparatively late date lacks any foundation. It is an attempt to resurrect in new guise the old "Eskimo wedge" theory of Jesup Expedition days—which at long last had been mercifully laid to rest—and which is completely contradicted by the data of ethnography, linguistics, and physical anthropology. In particular, post-war Russian anthropometric field work in northeast Siberia[108] showed the Eskimo to be intermediate between the "Palaeo-Asiatics" and the American Indian, and not an alien "wedge." Although the ultimate affinities of both the Eskimo and the "Palaeo-Asiatics" seem to lie in eastern Asia rather than interior Siberia, these relationships are very ancient and affect both groups equally. There is no basis for any recent migration of Eskimos, as proposed by Rudenko. Linguistics and ethnography also confirm this intermediate status of the Eskimo, as demonstrated in some detail in a recent study by the present writer,[109] who suggests that the Eskimo may be the ancient substratum of the North Pacific rim from Kamchatka to British Columbia, and that the similarities between the Northwest Coast tribes and the "Palaeo-Asiatics" are due to their respective invasion of, and mixture with, this common base.

It would be hard to deny the reality of southern elements in the ancient Bering

107 Levin, 1949, p. 230 (my translation).
108 Summarized in Chard, 1951, 1954.
109 Chard, n.d.(a).

Sea cultures. But it seems to this writer that a more acceptable explanation of them is to be found in Okladnikov's picture of a chain of coastal cultures along the east Asiatic shore, of which Bering Sea Eskimo was the terminal link. This is the most sensible suggestion we have had to date, in my opinion, in that it best accords with the available data from all disciplines—as of this moment.

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PAINTED POTTERY AND ZUÑI HISTORY

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ALMOST FORTY YEARS AGO Kroeber, and, in greater detail, Spier, on the basis largely of surface sherd collections, determined the essential outline of pottery development in the Zuñi country of western New Mexico. The sequence they found ran as follows: black-on-white and black-on-red, then glaze-painted ware (black glaze and white paint on red; glaze-on-white, and glaze- and red-on-white), buffware, and modern painted. Shortly thereafter, Hodge established this sequence, with more detailed breakdown, on a stratigraphic basis, through his extensive excavations at the great historic Zuñi site of Hawikuh.

Very little field work has been done in late sites of the Zuñi country since then, except for occasional collecting of surface sherds at various ruins already surveyed by Spier. Zuñi pottery has been referred to in a few studies and compilations, relating to neighboring districts. In the *Handbook of Northern Arizona Pottery*, Colton and Hargrave assigned type names to a number of varieties of painted pottery in the Zuñi country, up through the earlier glaze-paint types. Two years later, in 1939, a major study of historic Pueblo pottery by the late Dr H. P. Mera included a brief description and discussion, with type names, of the glaze-paint revival in the seventeenth century. For several years general review of the entire subject has been needed. The present discussion, a preliminary version of which was written originally in 1940-41 and held back in anticipation of other studies which have not yet appeared, is finally offered after suffering a couple of revisions.

Of the several prehistoric elements which went into the makeup of the Zuñi people, as seen darkly through the glass of ceramics, the most important appears to have been that represented primarily by "White Mountain Redware" of the Mogollon Rim or upper Salt-upper Little Colorado region.[1] Another element of major importance is that represented by the black-on-white ware, and associated culture of San Juan Anasazi type, centering in the area to the north of the Zuñi country. This pottery and Tularosa Black-on-White and its variants, from the south and west, are classified together in taxonomy—chiefly because of the use of iron paint—under the designation "Cibola Whiteware."[2] Tularosa Black-on-White is, however, associated historically with the redware of the White Mountains region, though disappearing toward 1300 AD.

1 Colton and Hargrave, 1937.
2 Colton, 1941.

The early occupation of the Zuñi region, relatively sparse or at least represented only by small scattered sites, is broadly of "Chacoan" or northern type, of San Juan Anasazi affiliation,[3] rather than Mogollon. The appearance of certain Mogollon traits, however, at Kiatuthlanna and elsewhere has often been noted. A general substratum of Anasazi population is seen in the Zuñi region from "Basket Maker III" and "Pueblo I" into "Pueblo III," until in the thirteenth century other elements seem to have entered in increasing numbers.

Because of the considerable confusion enveloping pottery of the Chaco region and the lack of definition of Puerco Black-on-White, no clear picture can be drawn at present of the interrelationships of the various black-and-white pottery types of the Puerco region of east central Arizona in Developmental Pueblo times, which have been referred to by various writers under the names Kiatuthlanna, Red Mesa, "Escavada" (Chaco 2), Gallup and Chambers (Chaco Transition 2-3), and Puerco. Similar types slightly farther south, which have been named Snowflake, Gordon, Reserve, etc., tie in somehow with these. These types share the use of iron paint and many elements or features of design. The whole group is included in Dr Colton's "Cíbola White Ware," which takes in much more than the Developmental Pueblo material I have in mind here.

These types or closely similar materials occur in Developmental Pueblo sites in or not far north of the Zuñi Reservation. Fully evolved true Chaco Black-on-White (Chaco 3) of the twelfth century also occurs, though very sparsely, in at least the Manuelito area, north of the Zuñi country and southwest of Gallup.

Tularosa Black-on-White is of the same general iron-paint ceramic group as the Puerco-Chaco pottery, but it is consistently associated with redware and with polished brown utility pottery. Evidently it was developed, by way of such material as Reserve Black-on-White, from local southern imitation of White Mound and Kiatuthlanna Black-on-White of Pueblo I. The type apparently centers in the southeastern Little Colorado area, spreading thence both south into the upper Gila and west—especially in later forms such as Roosevelt Black-on-White—into central Arizona. Throughout, it is found with polished brown ware and other southerly diagnostic traits, and not generally associated with features characteristic of San Juan Anasazi such as gray corrugated pottery, circular kivas, lambdoid deformation.[4]

The early Tularosa style of design is almost identical with that of Wingate Black-on-Red and early St Johns Polychrome. The late Tularosa style of design, well exemplified in late black-on-white pottery of the Zuñi-Manuelito region, is

3 Reed, 1946.
4 Reed, 1946, 1948, 1950.

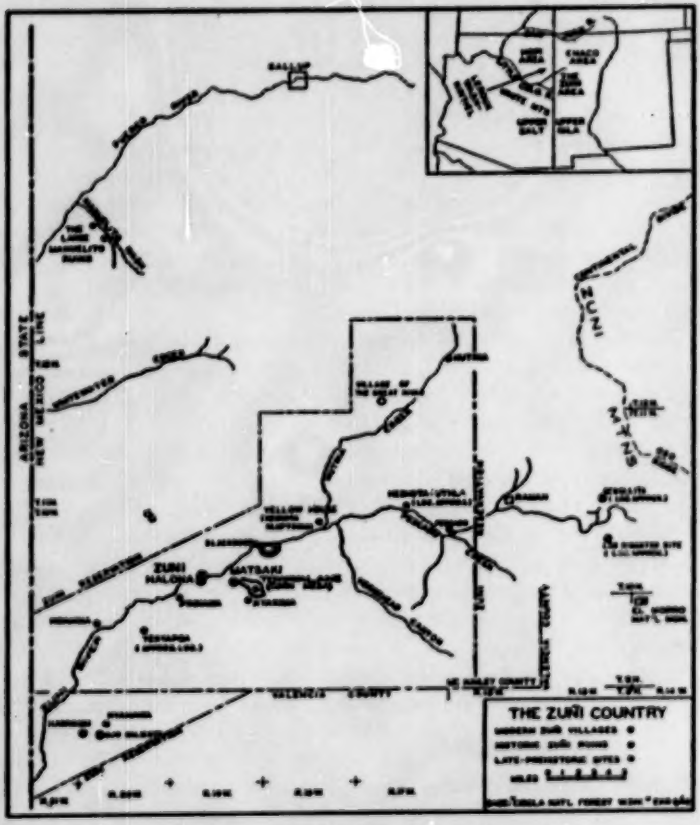

FIG. 1. Sites of the Zuñi country, and adjacent archaeological areas.

likewise close to that of Klagetoh Polychrome and is suggestive also of Kayenta Black-on-White style.

Presumably these design influences are what Dr Mera has in mind when he says that the people of the Tularosa culture were ancestral to those of Zuñi.[5] Surely the major elements were those coming into the Zuñi country from the general White Mountain region to the southwest. These groups did make black-on-white of Tularosa style, but also made redware. The people of the Tularosa area proper, to the south, doubtless reduced in number, very possibly also came to the Zuñi country, on abandoning the upper Gila region near the end of the thirteenth century; but they would have constituted merely one of several closely related important elements.

Tularosa Black-on-White seems to have given rise to several late variants, aside from the westward specialization or imitation Roosevelt Black-on-White. This proliferation probably took place in the middle and late thirteenth century. Three such "late Tularosa" types have been specified. The two major ones are Pinedale Black-on-White, the pottery described by Haury at the eponymous ruin;[6] and Klagetoh Black-on-White from the Kintiel-Klagetoh district in the Leroux drainage. It appears virtually identical with the preceding type, according to the published description, differing principally in quality and shade of paint, and to some degree in design. The third type, Wide Ruin Black-on-White, from exactly the same area as the preceding, appears to be intermediate between Pinedale and Klagetoh.[7]

Typing of "Klagetoh Black-on-White" and "Wide Ruin Black-on-White" might well have been held off pending further study; designation of this material, à la Mera, as "affinis Pinedale Black-on-White" might still be preferable. In study of sherd collections from the Manuelito area I have classified the relevant material there as Klagetoh Black-on-White.[8] The three types are dated by Colton and Hargrave to the late thirteenth century; the Manuelito material should be of similar date, on general principles and judging by the associated redware (late St Johns Polychrome varieties, including St Johns Glaze-Polychrome and Klagetoh, discussed below).

In the middle and late thirteenth century, then, the painted pottery of the Zuñi country, including the Ramah district, and that of the Puerco River area, particularly the Manuelito district and the upper Leroux drainage, seems to have consisted of two main groups: late forms of St Johns Polychrome, and late

5 Mera, 1937, p. 4.
6 Haury and Hargrave, 1931, pp. 62-64; Colton and Hargrave, 1937, pp. 241-242.
7 Colton and Hargrave, 1937, pp. 242-244, 249-250.
8 Reed, 1944.

developments of Tularosa Black-on-White. Certain of each of these have been referred to by the name "Klagetoh." Northwest of the Zuñi country, the complex in the Puerco-Leroux area, characterized by large pueblos with rectangular kivas (at Kintiel), and by Klagetoh-Kintiel Polychrome or Black-on-Orange and Klagetoh-Wide Ruin Black-on-White, is called the "Kintiel phase."[9] Probably also the late thirteenth-century occupation of the Zuñi country proper, as well as much of the Puerco River drainage, should be included in the Kintiel focus or phase.

It appears possible, judging by relative amounts in sherd collections, that the black-on-white was made entirely in the Manuelito and Leroux districts and traded from the former area into the Zuñi country, and that the glaze-paint St Johns Polychrome was made only in the Zuñi country or farther south. That the redware actually was also made in the Manuelito district, however, is not unlikely. Kintiel and Klagetoh seem to yield only small amounts of glaze-paint St Johns Polychrome; and glaze-paint pottery may perhaps not have been made locally. Apparently there is no true Heshota-uthla Glaze-Polychrome at these Leroux drainage sites.

Generally, all the way from the Tonto Basin to areas east of the Rio Grande, black-on-white of Tularosa style, in a broad sense, is associated regularly with polished brown pottery, and frequently also with black-on-red. These materials run from 1000 AD or before to 1300 or after. There is no actual reason why the same people could not have made polychrome redware of Klagetoh type, and other varieties, and black-on-white of Klagetoh-Pinedale type together, throughout the area of the Kintiel phase or focus, as well as farther south.

By the end of the thirteenth century or soon thereafter, much of this area had been abandoned. Occupation continued, within the regions directly affecting Zuñi history, apparently only in the Zuñi country itself, including the Ramah district; in the White Mountains; and at four sites holding on in the Petrified Forest area.[10]

The black-on-white tradition was extinguished in the Zuñi country around 1300 and need not be considered extensively in this discussion. Only after 1300 is it reasonable to speak of the occupants of the area as prehistoric Zuñis. Out of "White Mountain Redware," however, developed the important glaze-paint wares of Zuñi and Acoma and of the Rio Grande.

White Mountain Redware, as one of the major ceramic groups set up by Colton and Hargrave, includes the Wingate-St Johns-Four Mile developments; and also the early Zuñi glazes, *except* for those types slipped on *both* surfaces with

9 Gladwin, 1934, fig. 4; and cf. Reed, 1944.
10 Colton, 1936; Haury and Hargrave, 1931; Mera, 1934.

white.[11] This separation is rather arbitrary, and it might have been better to omit entirely consideration of the Zuñi glazes under "White Mountain Redware."

In the White Mountains or upper Salt area the characteristic redware types of the late thirteenth century are Pinedale Black-on-Red and Pinedale Polychrome (white added to black glaze-paint decoration); that of the fourteenth century is Four-Mile Polychrome (glaze and white on red). The change in style from Pinedale to Four-Mile occurred early in the fourteenth century.[12]

North of the mountains, in the upper Little Colorado drainage, the characteristic black-on-red pottery of the thirteenth century is St Johns Polychrome. This type developed in the second half of the century toward an orange surface and toward glaze paint, with a different style of design. Several varieties have been recognized.

Two localized varieties of late thirteenth-century St Johns Polychrome in the northwestern Puerco drainage have been distinguished and named—Klagetoh and Kintiel—which are yellow, orange, or tan, instead of red, and which frequently lack the white exterior decoration.[13] In the Hopi country, Kwaituki Polychrome of the same period is a close parallel and probable imitation of St Johns in color scheme and design, of local material. Jeddito Black-on-Orange, characteristic thirteenth-century decorated type of the Hopi country, and Tuwiuca Black-on-Orange of the Winslow area, also could be grouped in a general "affinis St Johns" category.[14]

A considerable amount of late St Johns, similar to Kintiel and Klagetoh, with orange rather than red slip, and with a distinct type of decoration also characteristic of Kintiel and Klagetoh, is found farther east, often with glaze paint. Still another variation (now called by a separate name, Springerville Polychrome, I am sorry to note) is St Johns with the addition of white outlining of the black interior design, as in various late types to the west and northwest. The style of design is often early, however, rather than of late type, it seems to me.

The material typed as Kintiel Black-on-Orange and Polychrome and Klagetoh Black-on-Yellow and Polychrome constitutes a late thirteenth century group of non-glaze variants of St Johns, seemingly restricted to the upper Leroux-Puerco-Zuñi drainages and intermediate between St Johns and its relatives in Hopi country. The material classified under these four types could well be lumped together under the term Klagetoh originally applied to this trend.[15]

11 Colton and Hargrave, 1937, pp. 102-127.
12 Haury and Hargrave, 1931, pp. 41-43; Haury, 1934, pp. 16-19.
13 Colton and Hargrave, 1937, pp. 123-126.
14 *Idem*, pp. 137, 141, 148.
15 Mera, 1934, p. 17; cf. Reed, 1944, p. 170.

In the Petrified Forest about this time, there are found forms of Tularosa Black-on-White and of St Johns Polychrome, and Pinto Polychrome, with several types dated to the early and late thirteenth century occurring as intrusives from south and north.[16] The culture of the Zuñi country in the late thirteenth century is not well enough known to determine its degree of difference from the Kintiel-phase material of nearby districts.

Probably around 1300, the Kintiel focus northwest of the Zuñi area disappeared as such. There is no evidence of fourteenth-century occupation of Klagetoh and Kintiel and the Manuelito district. The people presumably went to the Zuñi area.

The fourteenth-century culture of the White Mountains (large pueblos with rectangular kivas: Four-Mile Polychrome) and of the Zuñi area (numerous sites: the glaze-paint sequence) is well understood compared to the stage of transition at the end of the thirteenth century.

Only one other district in the upper Little Colorado region was still occupied into the fourteenth century, and that only sparsely. In the Petrified Forest area the final stage of prehistoric occupation (at the Puerco Ruin and at Stone Axe Ruin at Wallace Tank) is characterized by Homolovi Polychrome (with a black-on-red subtype lacking white outlining), with small amounts of Pinto Polychrome, Four-Mile Polychrome, the Zuñi white-slip glazes, Jeddito Black-on-Yellow, and Bidahochi Polychrome.[17]

As in the Salt River drainage, where manufacture of Roosevelt Black-on-White ceased about 1300, only redware (developing into glaze-on-white) was produced in the Zuñi country after the disappearance of the Kintiel focus near the end of the thirteenth century. The decorated pottery type of the first half of the fourteenth century is called *Heshota-uthla Glaze-polychrome* and obviously is a development of St Johns Polychrome.[18]

The transition from the classic variety of St Johns Polychrome, with designs closely similar to those of Tularosa Black-on-White, to the Zuñi glazes is a subject needing clarification. Are all glaze-on-red bowls with white exterior decoration to be called Heshota-uthla Glaze-polychrome, or only those with very narrow white lines as specified by Kidder in the published description, the others to be called St Johns Glaze-polychrome? A slight time-difference may be involved.[19]

In any case, this transition seems to have taken place toward the end of the

16 Mera, 1934, pp. 14-16.
17 *Idem*, pp. 17-21.
18 Kidder (and Shepard), 1936, p. 364.
19 *Idem*, p. 604, ftn. 2.

thirteenth century. The early date assigned by Colton and Hargrave[20] is contravened by the approximate contemporaneity of Heshota-uthla with the dated beginnings of Rio Grande Glaze I (or Glaze A) of the second quarter of the fourteenth century.[21] Heshota-uthla is specifically associated with tree-ring dates in the Rio Grande falling in the first third of the fourteenth century.[22]

An additional reason for fairly late dating of the transition to glaze in the Zuñi region is to allow some time for the changes in design and other features on the polychrome and the associated black-on-white, and the development through "subglaze"[23] to glaze.

Occurrence in the Manuelito area of glaze-polychrome with wide-line white exterior decoration, in association with late Tularosa types of black-on-white pottery, and the absence of black-on-white in association with glaze-polychrome at Hawikuh, indicate a period late in the thirteenth century, when glaze-paint had been introduced on late St Johns forms (e.g., Klagetoh), but when black-on-white was still being made, followed by the development of Heshota-uthla Glaze-Polychrome and the dropping of black-on-white. The series of Hawikuh glazes, with no black-on-white or other painted pottery associated, must have begun about 1300 or in the early fourteenth century; surely not more than a few years before 1300 at the earliest.

The first pottery of the Hawikuh sequence, "Group B," is a redware decorated in glaze-paint, with matt white decoration of bowl exteriors,[24] the type now designated Heshota-uthla Glaze-Polychrome. "Pinnawa Black-on-Red"[25] is simply Heshota-uthla without the white decoration; this material need not be classified separately. As to the date of this horizon, Kidder's "end of the thirteenth century to, say, the middle of the fourteenth century"[26] seems about right.

The second horizon at Hawikuh is that of white-slipped ware—Hodge's C and D.[27] The white-slipped ware includes (apparently in the following order, from early to late): glaze-on-white interior, with white-on-red exterior; glaze-on-white, inside and out; glaze- and red-on-white; and, finally, red-on-white (no glaze-paint). These no doubt overlap considerably in time, and they may all be actually more or less contemporaneous rather than sharply successive.

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20 Colton and Hargrave, 1937, pp. 105, 113-114.
21 Kidder, 1936, p. 608; Mera, 1935, pp. 31-33; Mera, 1940, pp. 2-3.
22 Mera, 1940, p. 2.
23 Kidder, 1936, p. 363.
24 Hodge, 1922, 1923, 1924.
25 Colton and Hargrave, 1937, p. 113.
26 Kidder, 1936, p. 608.
27 Hodge, 1923. Cf. also Hodge, 1922, 1924, 1939.

An additional variety is described from the Petrified Forest under the name "Adamana Polychrome"—glaze- and red-on-white interior, white-on-red exterior.[28] I have one such sherd from Kwakina, and specimens of this type have been illustrated.[29] Yet it must be a very minor variation as Hodge does not discuss it separately in his 1922-1924 papers on Hawikuh.

The four successive (?) varieties mentioned above have previously been named as follows: "Wallace Polychrome," "Hawikuh Glaze-on-White," "Arauca Polychrome," "Pinnawa Red-on-White."[30] Still another type is listed as "Pinnawa" Polychrome, apparently a combination of minor variants of "Wallace" Polychrome and "Arauca" Polychrome.[31] This classification is not too happy, and, I feel, should be reconsidered; although greater precision than simply Groups B, C, D, or Glaze I and Glaze II,[32] is desirable. The material is classified by Colton and Hargrave not only into separate series but into two different "Wares." On the basis of the very scant data, rather arbitrary and unsatisfactory period dates are given. The name "Wallace Polychrome" is not good; as it is taken from a feature well outside the Zuñi country (Wallace Tank, where Stone Axe Ruin is located, just east of the Petrified Forest). The name "Arauca Polychrome" contravenes Colton and Hargrave's own rules for derivation of pottery-type names. The separation of "Adamana Polychrome" and "Pinnawa Polychrome" is also unfortunate, I believe, especially as several other minor variants occur.

The following revision is suggested, in which minor variations are not separated off as types:

Heshota-uthla Glaze-Polychrome (including "Pinnawa" Black-on-red);
Kwakina Glaze-Polychrome (vice "Wallace" and "Adamana");
Pinnawa Glaze-on-White (vice "Hawikuh");
Pinnawa Glaze-Polychrome (vice "Arauca" and "Pinnawa");
Pinnawa Red-on-White.

Only the first and last are here retained unchanged. The third is changed because confusion might arise from Colton and Hargrave's "Hawikuh Glaze-on-White," for an early glaze type, and Mera's *Hawikuh Glaze-on-Red* and *Hawikuh Glaze-Polychrome* for the late revival of glaze.[33] The name of another major Zuñi site is substituted for "Wallace," to accord better with other names of the

28 Colton and Hargrave, 1937, p. 117.
29 Martin and Willis, 1940, plate 120: i, 2.
30 Colton and Hargrave, 1937, pp. 114-115, 129-131.
31 *Idem*, pp. 115-116.
32 Hodge, 1923, 1939.
33 Mera, 1939.

series. The type, with glaze-on-white interior and white-on-red exterior, is fairly prominent in my sherd collection from Kwakina.

Personally, I feel that standard names could well be used only for major types or groups and isolated types or extreme variants, especially in view of the often deplored but still growing welter of names. Thus, I prefer Rio Grande Glaze A and B rather than Agua Fria Glaze-on-red and Largo Glaze-on-yellow. Variants in each horizon can be specified in the same fashion as Kidder's Glaze I Red and Glaze I Yellow, which is a simpler and clearer system even, though not conforming to the standard pattern. Yet it is admittedly desirable to avoid the use of numbers, or perhaps even of letters, except for a series of well-established sequence. Consequently, here I suggest grouping several minor variants under the term *Pinnawa Glaze-Polychrome.*

The place in time of the white-slip types, glaze-paint and red-on-white, can be only approximately determined. Around 1350 seems a reasonable beginning date; and the next group in the Zuñi ceramic sequence can hardly have begun before the early part of the following century, for reasons discussed below. A hundred years would probably be enough time for the Zuñi glaze sequence. The only estimate that can be made at present, then, is: probably from about 1325 or 1350 to between 1425 and 1500; from near the middle of the fourteenth century to some time in the fifteenth century.

The next ceramic horizon at Hawikuh is that of matt-painted buff or orange polychrome pottery,[34] superficially similar to Sikyatki ware and probably imitating it. The later style of this ware continues through the seventeenth century, occurring along with the late revival of glaze, with which European material is associated, and is roughly comparable to San Bernardino Polychrome in the Hopi country.[35] The earlier style is more similar to Sikyatki Polychrome proper, judging by sherd collections.

If use of regulation binomial names is desired for the matt-painted buff-slipped Zuñi polychromes, superficially resembling Hopi pottery, *Matsaki Polychrome* is suggested as a possible name for the earlier type, and *Concepcion Polychrome* for the later one. The name *"Hawikuh Polychrome,"* used at one time by Dr Colton in sherd-collection labels and in an unpublished check list of Southwestern pottery types, is out of the question because of published use for the late glaze.[36] Dr Colton has used, in sherd-collection labels and the said check list, the name

34 Hodge, 1922, 1923, 1924.

35 Brew, in press. Cf. Fewkes, 1898, plates CXIX-CLXVIII, in part; Martin and Willis, 1940, p. 11.

36 Mera, 1939.

"Matsaki Glaze-Polychrome" for (apparently) this late glaze or Hawikuh Polychrome (Mera). There would be nothing to prevent using the name *Matsaki Polychrome* for the buff-slipped polychrome. The name *Concepcion Polychrome* parallels the name San Bernardino for the corresponding Hopi (Jeddito-Sikyatki) material.

There is no direct information as to the absolute dates of these types, except stratigraphic evidence of their place in the Hawikuh sequence, but their approximate period can be estimated.

The beginning of Sikyatki Polychrome is dated to 1400.[37] A fair estimate for the initial date of this hitherto unnamed, pseudo-Hopi, matt-painted, buff-slipped Zuñi type, *Matsaki Polychrome,* would then be around 1450. The change to the later style or *Concepcion Polychrome,* probably took place during the sixteenth century, as the corresponding San Bernardino style in the Jeddito-Hopi area evidently developed before the Spanish period, according to Brew's findings, I believe; and many of the specimens from Sikyatki illustrated by J. W. Fewkes seem to be of San Bernardino type.

A revival of glaze-decorated ware occurred in the seventeenth century during the mission period (1629-1680). Dr Mera discussed this pottery under the names *Hawikuh Glaze-on-Red* and *Hawikuh Polychrome* in his 1939 paper. *Ashiwi Polychrome,* immediate antecessor of modern Zuñi Polychrome, characterized by different vessel shapes and by lack of glaze paints, developed from Hawikuh Polychrome around or soon after 1700.[38]

The idea has been advanced occasionally that the glaze revival occurred in the middle sixteenth century, since European objects are found associated with pottery of this group. This is not the proper inference. The occurrence of European material normally signifies a date after 1600 anywhere in New Mexico; a date after 1629 in the Salinas, Zuñi, and Hopi areas.[39] Very little material—except for a few sheep at Tiguex and Pecos—was left by the sixteenth-century entradas. Furthermore, European objects occurred at Hawikuh in association with the later style of Sikyatki-like ware, or Concepcion Polychrome, before the appearance of the late glaze. No European objects were found, however, with any cremated burial.[40]

A final and seemingly conclusive point is that occurrence of cremation burials at Hawikuh was especially characteristic of the earlier "Sikyatki" ware period

37 Colton and Hargrave, 1937.
38 Mera, 1939, pp. 19-20.
39 Hodge, 1924.
40 Hodge, 1921, p. 17.

(Matsaki Polychrome); and Castañeda describes specifically for Cíbola—and for no other pueblos—cremation of the dead in 1540.[41]

Evidently the matt-painted polychrome was not declining, or being supplanted by the revival of glaze decoration, at the coming of the Spaniards in 1540, but instead continued to be made through the sixteenth century. Very probably the late glaze began during the mission period, the middle half of the seventeenth century. The possibility that the revival of glaze-on-red was due to Spanish influence has already been suggested.[42] The change in burial custom from cremation back to inhumation (but now with the head to the east instead of north or south) presumably was similarly caused, although none of the early post-Coronado chroniclers, in 1581-83, 1598-1605, and 1626-34, happen to mention cremation at Zuñi.

Unfortunately, no tree-ring dates are specifically applicable to the pottery types discussed, save that Heshota-uthla Polychrome is associated with dates of 1302-1331 in the Rio Grande. Not much information can be obtained in the other direction, from pottery types intrusive as trade at Hawikuh and more or less dated elsewhere.

The only two intrusives mentioned by Hodge are Gila Polychrome and "Sikyatki ware" (Jeddito Black-on-Yellow and Sikyatki Polychrome). Sikyatki ware was found at Hawikuh from Heshota-uthla Polychrome levels on up through the horizon of matt-painted buff-ware or Matsaki Polychrome. This Hopi pottery is dated to the period between 1325 and 1625, thus giving no very specific ties but according excellently with the general period given herein for the Hawikuh glazes and the matt-paint polychrome ware.

Gila Polychrome was especially common in the first period of matt-paint buff-ware at Hawikuh, associated particularly with cremations, which at first glance seems rather surprising. Matsaki Polychrome has been tentatively dated herein, on the basis of other considerations, to the sixteenth century, with an uncertain extension back into the fifteenth. Gila Polychrome has generally been dated to the fourteenth century. Occurrence of a Gila Polychrome bowl in association with a glaze-on-white vessel in a grave at Hawikuh fits in better,[43] and Gila Polychrome is also reported with glaze-on-white cremations.

Possibly this represents the last of the "Salado" people. Gila Polychrome apparently was found to be relatively common at Hawikuh, and so is cremation. The documents of the Coronado expedition indicate contact between the Pima

41 Winship, p. 518; Hammond and Rey, p. 253.
42 Hodge, 1924, p. 13.
43 Hodge, 1923, p. 31.

country and the Zuñi in the sixteenth century. Possibly the "Animas phase" settlements in southwestern New Mexico and the middle Gila, or the late phase at Point of Pines, continued well into the fifteenth century, and the people went up to Zuñi on finally abandoning that area.[44]

Since the foregoing was written, Charles DiPeso has shown that Gila Polychrome apparently continued in use up into or through the seventeenth century, which makes its occurrence at sixteenth-century Hawikuh more understandable.

To recapitulate, the ceramic sequence of the Zuñi country can be outlined tentatively as follows:

Black-on-white of the Puerco group (Chacoan types, iron-paint)	before 1150
Tularosa Black-on-White and St Johns Polychrome	1150 to 1250
Black-on-white of Klagetoh-Pinedale type, and late forms of St Johns Polychrome (Klagetoh; glaze; occasional white-outlining)	1250 to 1300
Heshota-uthla Glaze Polychrome	about 1300 to perhaps 1375
Kwakina Glaze Polychrome	probably between 1325 and 1375
Pinnawa horizon—Pinnawa Glaze-on-white; Pinnawa Polychrome and variants; Pinnawa Red-on-White	1350 or 1375 to 1450 or 1500
Matsaki Polychrome, associated with Gila Polychrome and cremation	1450 or 1500 to near 1600
Concepcion Polychrome (analogous to the "San Bernardino" form of Sikyatki)	1550 or 1600 to 1680
Hawikuh Glaze-on-red and Hawikuh Glaze-Polychrome	1630 to 1700
Ashiwi Polychrome (early modern matt-painted)	1700 to 1800
Zuñi Polychrome (modern painted, no longer made)	1800 to 1942

The main basis of Zuñi ceramics after 1300, presumably representing the chief element of Zuñi population, is the polychrome redware (brown, orange, white-slipped, etc.) of White Mountain derivation. The black-on-white pottery of the Tularosa group represents the same general culture or the same kind of people. I feel, with little basis and no evidence, that the Zuñi language comes from this direction. Another element contributing to Zuñi culture and population, less clearly traceable in post-1300 ceramics and other remains, is represented by black-on-white of Chacoan tradition and other San Juan Anasazi traits of the people—

44 Haury, 1945, pp. 48, 211.

presumably Keresan-speaking, or Tanoan-speaking?—who occupied the Zuñi region before AD 1300. Finally, a southern group may have ended up at Zuñi, bringing cremation from the Gila River area or from Point of Pines.

SYNONYMY, Zuñi painted bowls, 1300-1800
(New names italicized, abandoned names in quotes):

"Adamana Polychrome" (Colton and Hargrave, 117)	A minor variant of *Kwakina;* G & R/W interior, R/W exterior.
"Arauca Polychrome" (Colton and Hargrave, 131)	G & R/W interior and exterior; *Pinnawa.*
Ashiwi Polychrome (Mera, 1939, 19-20)	Early modern matt-painted.
Concepcion Polychrome	Late form of matt-painted buffware, cf. San Bernardino, protohistoric (into mission period; European objects associated).
Hawikuh Glaze-on-Red (Mera, 1939)	Seventeenth-century glaze revival.
"Hawikuh Glaze-on-White" (Colton and Hargrave, 130)	*Pinnawa Glaze-on-white.*
Hawikuh Glaze-Polychrome (Mera, 1939)	Mission period (seventeenth century).
Heshota-uthla Glaze-Polychrome (Kidder, 1936)	G/R interior, W/R exterior.
Kwakina Glaze-Polychrome	G/W interior, W/R exterior.
Matsaki Polychrome	Matt-paint buffware, late pre-Spanish
"Pinnawa Black-on-Red" (Colton and Hargrave, 113)	Heshota-uthla without white paint.
Pinnawa Glaze-on-white	G/W interior and exterior.
Pinnawa Glaze-Polychrome	G & R/W interior and exterior.
Pinnawa Red-on-White (Colton and Hargrave, 129)	R/W, no glaze-paint.
"Wallace Polychrome" (Colton and Hargrave, 114-115)	*Kwakina Glaze-Polychrome.*

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